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MISSION PLAN FOR THE CIVILIAN RADIOACTIVE WASTE MANAGEMENT PROGRAM

HEARING

BEFORE THE

SUBCOMMITTEE ON
ENERGY RESEARCH AND DEVELOPMENT

OF THE

COMMITTEE ON
ENERGY AND NATURAL RESOURCES
UNITED STATES SENATE

NINETY-NINTH CONGRESS

FIRST SESSION

ON THE

DEPARTMENT OF ENERGY'S MISSION PLAN FOR THE CIVILIAN
RADIOACTIVE WASTE MANAGEMENT PROGRAM

SEPTEMBER 12, 1985

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MISSION PLAN FOR THE CIVILIAN RADIOACTIVE WASTE MANAGEMENT PROGRAM

THURSDAY, SEPTEMBER 12, 1985

U.S. SENATE,
SUBCOMMITTEE ON ENERGY RESEARCH AND DEVELOPMENT,
COMMITTEE ON ENERGY AND NATURAL RESOURCES,
Washington, DC.

The subcommittee met, pursuant to notice, at 9:38 a.m., in room SD-366, Dirksen Senate Office Building, Hon. Pete V. Domenici, presiding.

Present: Senators Domenici, Warner, Hecht, Evans, Johnston, Ford, Sasser, and Gore.

Also present: Marilyn Meigs, professional staff member; and Benjamin S. Cooper, professional staff member for the minority.

Senator DOMENICI. Could we please have order? Let me first, Senators, welcome two Senators who are not members of the committee who would like to participate. It is obvious that they have a genuine and sincere interest, so we do welcome the two Senators from Tennessee.

I understand that they're compelled to sit on our side today. That's prompted by what's on this side.

Senator SASSER. We have a slogan in Tennessee: If you can't beat 'em, join 'em, Mr. Chairman. [Laughter.]

Senator HECHT. Mr. Chairman, in Nevada we've had a lot of switchovers, so we're happy to welcome two more.

Senator DOMENICI. Very good. Very good.

Senator FORD. That's the only way you can have a winner. [Laughter.]

Senator DOMENICI. On the other hand, we'll take them any way we can, right?

What I'd like to do before we have opening statements is to ask the Senators who are on the committee for a little help here. I don't plan this hearing to go for 2 days, but finish today. All those witnesses, other than the leadoff witness, are going to be limited to 5 minutes, and then as many questions as we have of them and their prepared remarks will be accepted in the record.

But I may need a little bit of relief here in the chair because of some other responsibilities. Might I ask, therefore, Senator Hecht, how long can you be here?

Senator HECHT. I can stay 2 hours.

Senator DOMENICI. Oh, about 11:30?

Senator HECHT. Yes.

Senator DOMENICI. In the event I have to leave then, would you mind chairing in my stead?

Senator HECHT. It would be my pleasure.

Senator DOMENICI. And we'll see if any other Senators who have committed to be a part of the subcommittee or the full committee can accommodate the Chair in some way.

Senator Ford, will you be here for most of the hearing?

Senator FORD. I'll be here for a while, Mr. Chairman, and leave and then I'll be back.

Senator DOMENICI. All right. If I might, you may have to relieve me if there's no way for any of us to preside at some point.

All right, having said that, I would appreciate it if the Senators, those on the subcommittee and those who are guests, abbreviate their opening remarks. I do understand this is a serious issue of significance in a number of States, and I will accommodate. Let me just give a quick, brief overview.

OPENING STATEMENT OF HON. PETE V. DOMENICI, A U.S. SENATOR FROM THE STATE OF NEW MEXICO

Senator DOMENICI. First of all, it's been my observation here as a Senator for 13 years that very few things get accomplished during lameduck sessions that are of any consequence. For the most part, when you have a lameduck session, you get nothing accomplished that you want to do, and a lot of things that you never intended.

But the lameduck session that we had in 1982 produced a few good things. That was the year we got the gasoline tax change and substantially modified highway program; and lo and behold, during that session, after years of frustration, the Senate and House accomplished the monumental task of enacting the Public Law 97-425, Nuclear Waste Policy Act of 1982.

The disposal of nuclear waste, I think everybody understands, is a very serious national problem. Consequently, as it should be, the responsibility rests with the Federal Government. While the Federal Government needs to provide leadership and solutions to the technical obstacles, the management of nuclear waste repositories and the assurance of protection of public health and environmental safety, it has obviously recognized that these facilities are going to have to be located in one of the sovereign States.

There's no way that, just because the United States is in charge, that we can eliminate geographic siting somewhere within the territories of these United States.

It's also recognized that States and the affected Indian tribes should have fundamental input into the siting, construction, and operation of civilian high-level nuclear waste facilities.

It's important for the Department of Energy to provide potential host States with substantive participatory rights, but it also has the obligation to provide this country as a whole, the certainty that nuclear waste will be disposed of in a timely and cost-effective manner.

The act mandates the Department of Energy to prepare a comprehensive report to be known as the "mission plan" which shall provide sufficient information to permit decisions to be made in carrying out the repository program for accepting of nuclear waste by January 1998.

Accordingly, DOE submitted to Congress the mission plan in July 1985. This plan should be viewed as a planning document and, as such, it should not be viewed as a detailed system description or a project plan. Yet, this document can be a valuable tool and a backdrop against which all interested parties can assess the adequacy of the program.

Today, we're going to receive testimony from DOE, the Nuclear Regulatory Commission, State and Indian tribe representatives, public witnesses, concerning the content of the mission plan. As soon as the Senators who are here have made their opening statements, we will open the hearing with Mr. Ben Rusche, director of DOE's Office of Civilian Radioactive Waste Management.

At this point I will place in the record a statement from Chairman McClure.

[The prepared statement of Senator McClure follows:]

STATEMENT OF HON. JAMES A. MCCLURE, A U.S. SENATOR FROM THE STATE OF IDAHO

Today's hearing presents an opportunity to focus on the Department of Energy's Mission Plan—A document which, by its very nature and as mandated by Sec. 301 of the Nuclear Waste Policy Act, serves as a planning document. It lays out an overall strategy that identifies the key elements necessary to successfully implement the Nuclear Waste Policy Act.

I am looking forward to the witnesses' comments on whether or not the document before you adequately achieves the purpose which the authors of the Act intended. Additionally, I am sure that we will hear comments on many of the broader issues associated with the Civilian Radioactive Waste Program, including schedule—and the timing of the preliminary determination of site suitability; opportunities for meaningful public participation; the integral Monitored Retrievable Storage concept as proposed by DOE; the commingling of Defense Wastes; the site selection methodology; and many other paramount issues.

I am confident that, with open and balanced discussion, we will all leave this hearing with a better understanding and appreciation of the overall nuclear waste program elements.

Senator **DOMENICI**. I will now yield to Senator Ford.

Senator **FORD**. Thank you, Mr. Chairman. I was deep in thought.

Senator **DOMENICI**. I'm sorry to disturb you.

Senator **FORD**. That's all right. Since I'm going to be helping you a little later on, I'm sure it would be all right for a statement now.

Senator **DOMENICI**. Indeed.

STATEMENT OF HON. WENDELL H. FORD, A U.S. SENATOR FROM THE STATE OF KENTUCKY

Senator **FORD**. Mr. Chairman, I welcome Ben Rusche back to this committee to present the Department of Energy's mission plan for radioactive waste management. This mission plan is required, as the chairman said, under the Nuclear Waste Policy Act of 1982.

Failure of DOE to let people know what is going to be done and why it is being done is a big reason why we have had trouble carrying out difficult tasks such as nuclear waste disposal. Having a clear, detailed mission plan for the Radioactive Waste Disposal Program can be a real help to everyone.

There is an important change in the policy in this plan that I want to talk briefly about, Mr. Chairman. And I say "change," because when we passed the Nuclear Waste Policy Act in 1982, we all were thinking that the facility to be built would be a repository deep under the ground, located somewhere out West. The nuclear waste would be shipped out there and buried sometime in the 1990's.

We now have something somewhat different from the point of view of the national policy and very different from the point of view of the people of Kentucky. This mission plan describes the intent of the Department of Energy to build a monitored retrievable storage, known as MRS, a facility in our neighboring State of Tennessee before the repository is built out West. The MRS facility will be used as a collection point for all the spent nuclear fuel generated in the Eastern part of the United States.

Under this current mission plan, a lot of spent nuclear fuel will be traveling the highways and railroads of Kentucky on its way to the MRS. Without an MRS in Tennessee, I expect that very little spent nuclear fuel would find its way into Kentucky, so we are being asked to assume a burden in the name of solving a national problem that might not otherwise be ours.

I point this out not to express opposition to the Department's plan—at least not yet—but you should understand that Kentucky is a coal State. We don't have a single nuclear power plant in Kentucky. We don't generate spent nuclear fuel in Kentucky. Nuclear power competes with coal. Each kilowatt hour of electricity generated with nuclear power could have been generated with coal, and a lot of it would be Kentucky coal. We're helping our competition when we help the nuclear waste disposal.

We know that, and we know that from a national perspective, we need nuclear power. We know we all have to pull together to solve the nuclear waste problem, and we will play our part.

But don't think that we intend to force every Kentucky sheriff to become an expert in managing nuclear waste shipments over his roads. And we don't intend to divert Kentucky tax dollars to provide for the transportation of someone else's nuclear garbage. We expect that those who produce this garbage will help manage its transportation through Kentucky. And we don't need to be dictated to in this manner. We will manage this waste cooperatively, with plenty of notice and consultation, or we won't manage it very well at all.

I'll be looking very carefully at what DOE publishes about the transportation of nuclear waste in the mission plan and elsewhere. I'll be looking at what DOE says about the transportation of nuclear waste at hearings like this one, and I'll be looking very carefully at what DOE does about the transportation of nuclear waste.

Senator **Hecht** [presiding]. Mr. Chairman, I have extensive questions for Mr. Rusche, so I am going to forgo my opening statement and proceed after his testimony with the questions.

Senator Johnston.

STATEMENT OF HON. J. BENNETT JOHNSTON, A U.S. SENATOR FROM THE STATE OF LOUISIANA

Senator **Johnston**. Mr. Rusche, welcome back to the committee. The question of nuclear waste which was long a source of great frustration to me with the administration because of its failure to get a high-level man appointed and because of its failure to get a policy put together is now, frankly, a source of some satisfaction to me, since you have come into the job.

I think, really, you deserve a great deal of praise for the program you have put together, the expertise you bring to the job with you, and, the political sensitivity.

Of all areas of Government, I know of no area that presents as great a challenge as the question of nuclear waste. It is a problem that will not go away. It is with us, and dealing with it, however, calls for a great deal of knowledge and political skill. I say "political skill," because there is no area that I know of where there is as much rampant ignorance as there is about nuclear energy in general and nuclear waste in particular.

The public needs to be educated, but the public is slow to be educated, because our friends in the media give tongue to the most extreme, the most hysterical groups on the question of nuclear energy. If someone will testify that nuclear wastes are a much smaller problem, for example, than chemical waste, that they are entirely manageable, it's not a difficult problem, you will not hear that repeated in the media.

Rather, if someone will say it's going to poison our water supply, explode, ruin the country, that will be banner headlines across the country. I guess that is in the nature of the news media. And it is what the public is hungry to read because that confirms their utmost fears.

Now, I think what we've got to do is make it clear what it is, first of all, that we're dealing with; to say first of all, that these nuclear wastes are not liquid; they are not like the military waste that can leak out of barrels and flow somewhere. They are not gaseous. They are solid. I say they're not gaseous. There are minute quantities, perhaps, of gas but, by and large, they are—we're not dealing with tritium or these other things. They're solid waste. They are basically not soluble.

If there is an accident with respect to these, they cannot explode. There is absolutely no way that they can explode, and they are entirely manageable. If you had a big drum on one of these trucks which is supposed to be crash-proof, and it did have a rip or rupture, it would not ruin the water supply; it would not poison people; it would not put out a poison cloud as TMI threatened to do.

Rather, it would be an accident, which would be a bad accident, of course, but it would be entirely manageable, much more easily manageable than an accident involving chemicals where you do gets clouds of poison gas, which happens all the time, and which is a much greater danger by many, many magnitudes than is the question of nuclear waste.

Now, we should also emphasize and we need to continue to make clear—the President has made it clear in his last press conference--you've made it clear—those of us who have been involved in this legislation have made it clear—that the MRS is not in lieu of a permanent repository. It is designed to be a long-term facility which can safely, in a monitored and retrievable method, keep nuclear waste.

It is the way that the European countries have gone to it, have dealt with nuclear waste. It is entirely safe, and it is not interim in the sense that we're doing this until we build a permanent facility. It is interim in the sense, as I view it, that all wastes should go to the MRS before they go to the permanent facility, because by going first to the MRS the waste heat and the radiation can be greatly reduced. Of course, waste heat, we all know from a geologic standpoint, is the most difficult quality of nuclear waste to deal with in the geologic medium.

It would cause the salt to flow or the basalt to crack or the granite to crack, or it might, and when it is cooled down over a period of time in not too many years, that is a much more manageable problem.

So, Mr. Rusche, I want to congratulate you on the work you have done. I hope we can take some of the myths and some of the hysteria out of this subject. It may well be that nuclear energy is dead in this country.

I think it is a great tragedy that it is, in the sense that it is no longer possible to build a nuclear powerplant; because of regulation and because of other reasons it takes 12 to 15 years in this country, whereas in Japan they can do it in 5 years.

I was just over there, by the way, I say to my friends from the Nuclear Regulatory Commission, speaking to the Japanese Atomic Industrial Forum, and nuclear energy is alive and well in Japan as it is in many countries. And it is, frankly, because they have adopted a program of letting the scientists run the program.

We in the Congress have created a different scheme of regulation. We are a litigious society. We have enshrined the lawsuit, the regulation, the hearing, the procedure, the legal procedure, as being the end to be sought rather than safety, efficiency; rather than science, we have enshrined the law. And what we get is a legal result. We get a piece of paper. We get a hearing. We get large law fees. We get great delays.

That's why it takes, in my view, 12 to 15 years to build a plant, whereas in Japan, as I say, it's about 5 years. Their scram rate over there is less than half of ours. It may be less than a quarter of ours, which is a good indication of the fact that their actual safety is much better than ours. We beat them very strongly in terms of cost, in terms of delay. In that sense, we in the Congress who have designed this system, built by lawyers, for lawyers—and I used to be a lawyer.

It's better to be on the public trough. [Laughter.]

But in any event, the fact that we can't build any new plants doesn't mean that we don't have 94 in operation which are going to continue to be in operation. Another 34 are coming on, unless more are prematurely stopped—we think it's about that many that will be built. Over 100 nuclear plants are going to continue to have waste.

And it is a problem which must be dealt with. And I really don't believe it is a big problem. But it is a scientific fact that it is not a very big problem, and I hope with your stewardship, Mr. Rusche, that we can solve this problem in an efficient, cost-effective way.

Senator **Domenici** [presiding]. Thank you, Senator.

Senator Evans.

Senator **Evans**. I think I'll wait for the testimony. I might suggest to my colleague from Louisiana that cool water storage in Lake Pontchartrain might change his mind as to——

Senator **Johnston**. Excuse me?

Senator **Evans**. I said cool water storage in Lake Pontchartrain might change your mind as to how easy this is.

Senator **Johnston**. Senator Evans, are you going to—might I just inquire right up front here for scheduling purposes—are you going to have any time during the day to relieve the chairman if I need some help.

Senator **Evans**. I'll talk to you about that.

Senator **Domenici**. Would you please?

Senator **Evans**. It's going to be difficult.

Senator **Domenici**. I'd very much appreciate it if you could tell me what is available.

Do the Senators from Tennessee desire to be heard now in opening remarks, or do you want to proceed with the witnesses?

STATEMENT OF HON. JIM SASSER, A U.S. SENATOR FROM THE STATE OF TENNESSEE

Senator **Sasser**. Mr. Chairman, I'll have some questions of Mr. Rusche. I might just like to say a word or two at the outset, in view of the fact that our State of Tennessee is projected to be impacted by——

Senator **Domenici**. Would you keep it as brief as you could? We'll accommodate on the questions for as long as you'd like.

Senator **Sasser**. Thank you, Mr. Chairman, and I will be very brief, and I thank the chairman and the ranking member for allowing me to appear here this morning.

Mr. Rusche, I have just come back from a month in my State of Tennessee and during that period of time, I was in over 41 counties in that State, and I can tell you that there is genuine concern, genuine skepticism about the selection of Tennessee as the site for the MRS or monitored retrievable storage.

There is a feeling, I think, on the part of the people of my State that there is a hidden agenda on the part of the Department of Energy. Now, I'm not saying that that feeling is necessarily justified. I'll be quite frank. But people are concerned in my State that Tennessee is being quietly railroaded into an interim site for nuclear waste, and that one day we'll wake up and discover that Tennessee will have to accept the responsibility not just for a temporary waste site storage, but for permanent storage. And I think there is a clear burden of proof on the Department of Energy to demonstrate that, No. 1, a monitored retrievable storage site is needed; No. 2, that this monitored retrievable storage site is safe, if it is, and that it's not going to become a de facto final repository.

And I'd like to urge you, Mr. Rusche, and others in the Department to take extraordinary measures to communicate with the people of Teneseee candidly and openly about the monitored retrievable site plan.

Mr. Chairman, I thank you.

Senator **Domenici**. Thank you very much, Senator.

Senator Gore, you're welcome to have an opening statement.

STATEMENT OF HON. ALBERT GORE, JR., A U.S. SENATOR FROM THE STATE OF TENNESSEE

Senator GORE. Thank you, Mr. Chairman. I appreciate your courtesy and that of the other members and the ranking member of the committee.

Three years ago, as a member of the House Energy and Commerce Committee, I participated in the drafting of this law and I appreciated the good working relationship that we had during that time. And you will remember that the first drafts of that legislation included a requirement for a temporary storage site or a monitored retrievable storage.

It was during the deliberations of the House and Senate that that requirement for a temporary site was removed from the legislation and in its place was put the suggestion for a proposal by the Department of Energy. After they studied it, they could come to the Congress and propose such a concept and then the Congress would have to vote on whether or not the idea made any sense, whether it fits into the overall waste management plan.

Then, after that time, we would get to the question of where it would be located.

I have tried hard to keep an open mind about this whole process in the face of very strong opposition within the State of Tennessee, but I must say I have two strong reservations which I have already expressed, and I want to explore them during these hearings with your courtesy and with your help, Mr. Chairman.

First, I'm concerned that it will be more costly and less efficient to take the waste first from the reactors to a temporary site and then pick it up again and take it to the permanent site.

And second, I'm concerned that if we finalize the location of an MRS before we locate the permanent repository, we will remove the necessary urgency and political pressure to get final approval of a permanent storage site. I can point out to you statements from officials in some of the areas mentioned as possible permanent repositories. The day after the initial statements were made about this MRS, they said "What a relief—now the pressure is off."

And if you think you've got problems now in meeting the deadline for establishing that permanent repository, this MRS could extend that time period way on out into the future.

I will not belabor those points on this occasion. I appreciate your courtesy very much and I'm looking forward to hearing your witnesses. Thank you for your courtesy, Mr. Chairman.

Senator JOHNSTON. Mr. Chairman, may I say just a word?

Senator DOMENICI. Indeed. Let me first say to Senator Gore, both of your concerns are obviously very legitimate.

The Senator from Louisiana has been a leader in the MRS and he is very familiar with what they're doing with it. In France, clearly they are—what, about 55 percent of their energy is going to be nuclear? I think it already is, and they don't seem to have any great fear. They're bent on even making it a higher percentage. And they are providing the interim storage in an MRS mode.

I don't think we ever intended it to be a substitute for that prime responsibility of finding that permanent site and getting it done, nor did we intend it to take the heat off, which is your second issue. And we ought to explore that.

In response to my friend, Senator Sasser, I don't think we want any hidden agendas, so let's get that out on the table if that concerns you and your people. There ought not be any hidden agendas. This statute is terribly complex, but rather forthright in reference to the issue that you raised.

I had a similar situation. We have the only permanent repository in the United States for low-level military waste. It's interim and if it works it will become permanent. Some of you know of it; some of you ought to go down there and see it if you haven't. It's a huge cavern, built in the saltbeds in the State of New Mexico, underground, just a huge mining undertaking with the precision of our best scientists and engineers. And many thought there was a hidden agenda there, too.

And to my knowledge, there's been none. At every occasion, the Department has confirmed that it is low-level military. The President has confirmed it. And while there may be speculation and rumors, we told them there's no hidden agenda to convert it to anything else, and that has been the case right up to now.

And I think it will continue for as long as that law is on the books, and I don't think we'll change it.

I do want to add one other comment. And then I'm going to yield to my friend from Louisiana. This statute recognizes the enormous interest of the States in terms of the permanent repository site and construction and that States are going to be part of the entire process. And when it's finished, if they conclude, in a normal political manner, consistent with their statutes that they don't want it, that something has been handled improperly, or that there was a hidden agenda, there is a very unique aspect. That is, they can then at that point in time say no, and the Congress of the United States, both House and Senate, in a very unique process, recognizing that State's kind of right that I just described—both Houses of Congress would have to vote affirmatively to override that State's denial of the facility as a situs within that State.

That was built in very carefully to guard the national interest that I spoke of in my opening remarks, and create a very significant balance where the States have much to say about it. That would be their final presentation, so as to speak, that Mr. Rusche or his successor didn't do things right and that indeed their public is not safe. We don't think that will ever be the case, but if that was, they bring it to us and we must vote affirmatively to override that State's decision, and I hope everybody out there that is concerned and worried about this understands that that's how it all ends up—back in your lap—and then if you say no, we have to override that up here in both bodies.

So I think we were aware of the kinds of pressures and concerns that would come, both real and political.

Now, Senator, on Senator Gore's isssue, would you care to comment?

Senator JOHNSTON. Yes, I would, Mr. Chairman, because this legislation did come out of this committee, first in 1980, the first MRS bill. As a matter of fact, the 1980 version which passed the Senate, did not pass the House, the only kind of storage was MRS. And then in the 1982 version, we had a dual track between MRS and the geologic storage, the idea being that we would go forward on both.

It was never thought that MRS would be a maybe, an exploratory, an idea. Rather, it was at all times, both in the 1980 and the in 1982 version, a requirement of the law that it go forward.

The role of Congress was to approve and appropriate the money for the design. Under the law, the DOE was required to come in with a design, as I recall, within 1 year; a design and a site. As a matter of fact, we created a—first you pick your five sites and then you bring it down to three, which three shall be characterized, and then they finally pick the one. When they pick the one, they shall have a design. As a matter of fact, I think you have to have a design for three different sites and three different locations—I mean two sites and three locations, that's right—in such manner that the Congress could then appropriate money to build it.

So it's not a question of an idea to decide whether to go forward, but rather for Congress to pick the site and appropriate the money to build it. And I think that is demonstrably the right thing to do, to have an MRS. If Tennessee actually decides—and I thought the people in Oak Ridge rather liked the idea of 600 jobs.

Senator GORE. Will the Senator yield?

Senator JOHNSTON. Yes.

Senator GORE. First of all, on the House side, the change was made to require them to come back and then have an authorization—we can question DOE about this. I know the Senate has always been much more affirmative on an MRS than the House was.

It's my understanding that the way it finally ended up, that the DOE has to come back and that we have to have a consideration on it. But as for the States——

Senator JOHNSTON. To come back with the design, but the design must be approved; that's correct.

Senator GORE. That's correct. And an MRS can't go forward until we act.

Senator JOHNSTON. Not the concept. The design, not the concept.

Senator GORE. But if we disapprove of the way it fits into their plan, then it doesn't go forward.

Senator JOHNSTON. But we can fail to appropriate money for the final—for any part of this, and kill it. Congress always has that constitutional power. But there is no question that we have approved the concept; what we have not approved is the design.

Senator GORE. Let me just make one other point.

The chairman referred to the process for State disapproval. I think this committee should be aware that the odds are very high that the State of Tennessee will end up expressing its disapproval of this plan and it will come back under that procedure.

Now, that's not a certainty by any means. And much will depend upon the formal proposal made in January and the arguments advanced by Mr. Rusche. But the odds are they will disapprove it. And as for the popularity of the plan in Oak Ridge, opinion is sharply divided, even within Oak Ridge. And one of the reasons for problems in the State is the way the process was handled, all three of the potential sites were placed in one State, and there was a candid statement from the Department of Energy that one of the reasons for that was to avoid the prospect of stirring up political opposition in more than one State.

In other words, concentrate all of the alternatives in one single State and isolate your potential opposition. And that hasn't gone down very well within the State of Tennessee. But again, I appreciate the committee's courtesy, and I will explore some of these things with the questions.

Senator DOMENICI. In my remarks, I failed to include the monitored retrievable in the State veto congressional override. It is vested with that same State right as the permanent facility for high-level waste. They both are subject to State denial and congressional override, and I did not mention that. That was an oversight. You're absolutely right in your explanation.

You can avail yourself as a State of the same process, as I recall.

Let's proceed with testimony of Mr. Ben Rusche. Your entire statement will be made a part of the record, and you may proceed.

STATEMENT OF BEN C. RUSCHE, DIRECTOR, OFFICE OF CIVILIAN RADIOACTIVE WASTE MANAGEMENT, DEPARTMENT OF ENERGY

Mr. RUSCHE. Thank you, Mr. Chairman, members of the committee. I appreciate being able to listen to the dialog that has just gone on, which is very illuminating, even in the context of the mission plan.

In December 1983, DOE widely circulated a preliminary working draft of the overview and program plans, called the mission plan, and in May 1984, we issued a formal draft for review by States, Indian tribes, the NRC, other Federal agencies, and the public. Over 2,500 comments were received.

Major areas of concern were expressed in a number of our activities, including institutional relations, defense waste, the repository schedule, site characterization, the preliminary determination timing, monitored retrievable storage, and transportation.

A summary of these and other major concerns and how we address them in the current mission plan is attached to my formal statement. The current mission plan, which we released in July and which is now before the Congress is, in our view, today's best estimate of DOE's plans and intentions in conducting the national program set forth in the Nuclear Waste Policy Act.

As you said in your statement, sir, it is not a detailed implementation plan, not a contract. We view it as a living document, subject to change as the circumstances and findings warrant. It's a planning document and, as such, we will review it annually and revise it on an as-needed basis.

The mission plan consists of three volumes which I have before me here and includes public comments and a record of responses to the public comments. The plan covers 11 areas which I'll not enumerate now.

As described in the mission plans, policy goals guide the formulation and the implementation of our program, and I think it's appropriate to enumerate these, sir.

First, the protection of public health and safety and environmental acceptability are of paramount importance.

Second, the program must be credible to the public by virtue of its integrity and technical excellence.

Next, the program must neither subsidize nor penalize nuclear power as an energy source.

And, finally, the program must be conducted in a cost-effective manner with full cost recovery.

We have adopted specific program objectives to implement these provisions in accordance with these goals.

First, our objective is to site, obtain a license for, construct and operate geologic repositories, such that the transportation of radioactive wastes to and disposal of the wastes in the repositories can be accomplished in a manner that is safe and environmentally acceptable.

Next, to submit a proposal, as required by the law, to develop one or more facilities for monitored retrievable storage.

Next, to ensure the acceptance of waste for disposal by January 31, 1998, in accordance with the acceptance schedule provided for in our standard disposal contracts and in conformance with the act.

Next, to assist utilities in providing adequate and safe at-reactor storage for spent fuel before transfer to DOE and to provide limited Federal interim storage to any utility found by the NRC to be eligible for such service.

And, finally, to manage the technical program and the funds collected for disposal and storage services or otherwise provided through appropriation in an effective, integrated and efficient manner.

The act provides a broad, flexible framework in which to conduct the necessary activities. It has authorized certain key facilities, set schedules and fees, articulated institutional interactions, provided the opportunity to analyze the desirability of enhancements to improve program performance, and recognized the need for flexibility and contingency planning.

In a large and controversial program like this that may span more than a century, the strategy of the program is to ensure that the activities authorized by the act are carried out in a vigorous manner; that potentials for systems performance improvements are analyzed and incorporated where useful, including requests for new congressional authority, as allowed by the act; and that contingency plans are identified and evalulated to provide maximum confidence that the program is prepared to adjust to meet the requirements of the act, not withstanding uncertainties as to future congressional authorization decisions and technical and institutional matters.

With this strategy in mind, the mission plan identifies the authorized plan, an improved performance plan, subject to future congressional action, and contingency plans which would be followed if any of the steps are either unsuccessful or not authorized or approved by the Congress. They are described in detail in my formal statement in three charts attached, and I'll not allude to them any further.

In addition, the plan provides a brief background on the status of nuclear power, spent fuel projections, a summary of the act, and appropriate background material.

The act provides a siting process through which DOE will site, design, and construct deep, geologic repositories for the disposal of spent nuclear fuel and high-level waste. Sir, in light of the conversation that has just gone on, I would like to reiterate that this is an unequivocal mandate of the act as we read it. It is not discretionary. It does not depend on MRS activities. It is the Nation's policy, as enumerated in the law, and it is our clear commitment to see that this is carried out.

This process is described in the mission plan as a part of the siting process and on the basis of environmental assessments, we will nominate five sites suitable for site characterization and recommend to the President three sites for characterization. We expect to do this about the end of this year.

With regard to the preliminary determination that sites are suitable for development as repositories, and as we discussed in a hearing with the NRC just last Friday and indicated in the mission plan, we believe that it is appropriate, and propose to make the preliminary determination of suitability of the three sites at the time we recommend the sites to the President for characterization.

Around 1990, after characterization of three sites, DOE will select one site for development of a repository and will prepare, in accordance with NEPA, an EIS, or an environmental impact statement on the site, and on two reasonable alternatives that have been considered.

Under the Nuclear Waste Policy Act, the NRC has 3 years to review an application for construction of a repository. NRC has indicated that 3 years is the minimum licensing review period required, unless effective steps are taken in the interim to identify and resolve licensing issues during the next 6 years.

We believe that licensing issues can be identified in this unique process and resolved through the effective use of the ongoing close and extensive interaction between DOE and NRC.

In the schedule presented in the mission plan, we have, therefore, allowed 27 months for NRC's review of the construction authorization. Of course, this assumes success in resolving issues early. With this schedule in mind, we believe we will be in a position to begin phase I operation of the repository by January 31, 1998, and full operation in the year 2001.

The concept of the integrated system applies not only to the authorized activities, but also to any other waste management system that could be developed to meet the requirements of the act. In particular, the act requires us to complete a detailed study of the need for and the feasibility of monitored retrievable storage and to submit a proposal to Congress for the construction of one or more MRS facilities, very specifically described in section 141.

Analyses to date continue to reinforce our tentative conclusion that an MRS facility fully integrated into the overall waste management system can significantly enhance several important objectives, and these are enumerated in my full testimony.

In April, we identified three candidate sites expected to be included in the proposal to Congress. All three candidate sites are in Tennessee, as has been alluded to by the Senator.

The studies and analyses necessary to fully describe the MRS facility, to define its potential costs and benefits, are now in preparation. The results will be presented in a proposal we plan to submit in January 1986 for congressional consideration.

My prepared statement discusses other integral components of the waste disposal system, including the MRS and extensive transportation activity. As described in the mission plan, I think it's fair to say that we have adopted an optimistic approach. I've never seen a program before in my life that would be more characterized by the statement I'm about to make; namely, that if we did anything less than be optimistic, we can almost be sure that our predictions would be self-fulfilling.

It is our objective to do the best we can. We may not do as well as we plan to do. And when we get down the road, whether it's next year or the next 5 years, we may find reasons why we should change certain plans, change certain timing. I believe the Congress has provided a mechanism for us to make you, the public, and all the affected States and Indian tribes aware. And if that turns out to be the case, we will change them. But our objective is to meet the mandate of the act with full consideration of the views of affected parties and to do it on time.

The mission plan is a planning document and, as such, we will annually review it and revise it as necessary. We will make those revisions available to all the interested parties to review before we put them in place and have an opportunity for their comment and input. And I suspect that this committee and others will want an opportunity to hear, as well, before we revise the plan.

With that, Mr. Chairman, in this very abbreviated statement, I think I will stop and try to be consistent with your interest in time, and be prepared to take your questions, sir.

[The prepared statement of Mr. Rusche follows:]

STATEMENT BY

BEN C. RUSCHE
DIRECTOR, OFFICE OF CIVILIAN RADIOACTIVE WASTE MANAGEMENT
U.S. DEPARTMENT OF ENERGY

BEFORE THE

COMMITTEE ON ENERGY AND NATURAL RESOURCES
SUBCOMMITTEE ON ENERGY RESEARCH AND DEVELOPMENT
UNITED STATES SENATE

SEPTEMBER 12, 1985

Mr. Chairman and Members of the Subcommittee:

I am pleased to appear before you today to discuss the Department of Energy's (DOE) Mission Plan for the Civilian Radioactive Waste Management Program. I appreciate the opportunity to continue our discussions with the Subcommittee so that we may keep you abreast of the progress of the program in a manner that is helpful to you as well as to us.

In my remarks, I would like to first discuss the Mission Plan in general and then focus on the current program plans, as described in the Mission Plan, for implementing the mandate for permanent disposal of spent nuclear fuel and high-level radioactive waste.

In response to Section 301 of the Nuclear Waste Policy Act of 1982 (the Act), DOE has prepared the Mission Plan for the Civilian Radioactive Waste Management Program. The purpose of the Plan, as directed by the Act, is to "...provide an informational basis sufficient to permit informed decisions to be made in carrying out the repository program and the research, development and demonstration programs required under this Act." It presents our best estimate at the present time of the objectives and the strategy of the program and of the facilities, institutional activities, management approach and data needed to successfully meet the principal objective under the Act to begin accepting spent fuel and high-level waste for disposal in deep geologic repositories by January 31, 1998.

The Act requires DOE to obtain comments on the draft Mission Plan before its transmittal to Congress. In December 1983, DOE widely circulated for comment a preliminary working draft of the overview and current program plans. And in May 1984, DOE issued a draft for review by States, Indian Tribes, the Nuclear Regulatory Commission, other Federal Agencies and the public.

Two months ago, DOE submitted to Congress the resulting current Mission Plan, comments received on the formal draft and DOE's responses to the more than 2500 comments received. As submitted to Congress, the Mission Plan is presented in three volumes:

Volume I:	Part I - Overview and Current Program Plans Part II - Information Required by the Nuclear Waste Policy Act of 1982
Volume II:	Record of Responses to Public Comments on the Draft Mission Plan
Volume III:	Public Comments on the Draft Mission Plan

Based on the comments received, the plan is substantially rewritten and revised from the draft. Key issues that emerged during the review concerned institutional relations, plans for defense waste, waste acceptance beginning in 1998, the repository schedule, site characterization and recommendation, the need for a second exploratory shaft at each characterized site, lack of detail on the second repository schedule, monitored retrievable storage, treatment of transportation and the need for strong management and quality assurance. (Attached is a brief summary of key issues raised by the commentors and the resolution contained in the Mission Plan.)

In the case of institutional relations, we added a new chapter which reiterates and expands on DOE's policy to promote "full, open and timely sharing of information" and describes the process for conducting these activities.

On plans for defense waste, nearly all parties wanted more information. This issue has now been resolved as a result of the President's determination that he finds no basis for a separate repository for defense waste and, as now reflected in the Mission Plan, DOE is planning to dispose of defense waste in the civilian repository.

Prior to the President's determination of April 30, 1985, the Office of Civilian Radioactive Waste Management and the Office of Defense Programs began analyses of potential cost allocation methodologies to determine the one considered to be most equitable to both the taxpayer and the ratepayer, and which adheres to the Nuclear Waste Policy Act. This activity is well along and the Department will issue a Federal Register notice in the near future, soliciting public comments on the analyses. After receipt and consideration of public comments, the Department's recommendation as to the fees to be paid into the Nuclear Waste Fund for the disposal of defense waste will be incorporated into the normal Congressional authorization and appropriations process.

A number of comments were directed to the 1998 date to begin accepting spent fuel and high-level waste for disposal. Comments, in many cases, suggested that we were being unrealistic and that there was no way to meet the 1998 date. I have taken the view previously, and we take the view in the Mission Plan, that we are committed to meeting that date.

A detailed schedule depicting our plans for achieving that date is contained in the draft Project Decision Schedule, required by Section 114 of the Act, issued for Federal agency comments in July 1985. As discussed in that document, DOE will utilize a number of mechanisms to ensure public and Congressional awareness of our progress in meeting our statutory obligations.

Many commentors requested that the Mission Plan describe the site recommendation decision methodology and how program participants will contribute to the decision process. In addition, commentors were divided with respect to DOE's position on the timing of the Act's requirement for the preliminary determination that sites are suitable for development as repositories.

In this regard, since the draft was issued in 1984, DOE issued Draft Environmental Assessments on each of the nine potentially acceptable sites for the first repository. These documents discuss in detail the process by which the proposed recommended sites were selected.

With regard to the preliminary determination that sites are suitable for development as repositories, the Mission Plan states that DOE intends to make that determination at the same time as the recommendation of three sites for characterization.

The Mission Plan is a document that has been under development for an extended period. It is intended to give today's best estimate of our plans and intentions. In many cases, it states not that a detailed plan is laid out, but that we will develop plans. In my view, it is not a contract, but a living document subject to change.

The Act has provided a broad, flexible framework in which to conduct the necessary activities. It has authorized certain key facilities, set schedules and formulas for arriving at fees, articulated institutional interactions, provided the opportunity to analyze the desirability of enhancements to improved program performance, and recognized the need for flexibility and contingency planning in a large, complex and controversial program that may span more than a century.

The approach which we have taken, and which we have recently outlined in the Mission Plan, evolves from the following policy goals:

- We must protect the public health and safety and the environment.
- The program must be credible to the public by virtue of its integrity and technical excellence.
- The program must neither subsidize nor penalize nuclear power as an energy source.
- The program must be conducted in a cost-effective manner, with full cost recovery.

The following specific program objectives have been established to implement the provisions of the Act and are reflected in the Mission Plan. They evolve from the policy goals which I have just listed and are as follows:

a. To site, obtain a license for, construct and operate geologic repositories such that the transportation of radioactive waste to and disposal of the wastes in the repositories can be accomplished in a manner that is safe and environmentally acceptable.

b. To submit a proposal to Congress to develop one or more facilities for monitored retrievable storage.

c. To ensure the acceptance of waste for disposal by January 31, 1998, in accordance with the acceptance schedule provided for in DOE's standard disposal contracts with utilities and in conformance with the Act.

d. To assist utilities in providing adequate and safe at-reactor storage for spent fuel before transfer to DOE and to provide limited Federal interim storage for any utilities found by the Nuclear Regulatory Commission to be eligible for such service.

e. To manage the technical program and the funds collected for disposal and storage services, or otherwise provided through appropriation, in an effective, integrated and efficient manner.

The strategy of the program is to ensure that the activities authorized by the Act are carried out in a vigorous manner; potentials for system-performance improvements are analyzed and incorporated where useful, including requests for new Congressional authority as allowed by the Act; and contingency plans are identified and evaluated to provide maximum confidence of the Act, notwithstanding uncertainties as to future Congressional authorization decisions and technical and institutional matters.

This strategy is presented in the Mission Plan as the "Authorized Plan," the "Improved Performance Plan" and "Contingency Plans." Attached are charts describing graphically these plans which I will discuss in detail.

With these strategies in mind, let me give you a brief status of the program.

THE AUTHORIZED PLAN

As shown in the first chart, the Act authorizes a number of key activities that, taken together, can meet the objectives of providing for the permanent disposal of spent fuel and high-level waste. In particular, the Act authorizes the development and operation of a geologic repository, the necessary transportation system for moving the wastes to the respository, and a provision for Federal interim storage. These authorities, along with other key requirements stated in the Act (that is, the need to obtain Congressional authorization for the construction of the second repository), constitute the minimum set of activities that the program will vigorously implement.

When the Act was passed, DOE had underway field and laboratory testing at nine different sites. Typically, the field studies included the drilling of boreholes to investigate subsurface conditions and to determine whether a potentially suitable host rock existed.

The field studies were supported by laboratory studies that focused on the isolation and engineering characteristics of the rock. Measurements of groundwater characteristics were made. Also in progress were systems analysis, waste-package development and repository-design efforts.

First Repository

In February 1983, in accordance with the Act, DOE formally identified those nine sites as being potentially acceptable. Those sites, as most of you know, are: one site in Louisiana, two sites in Mississippi, one site in Nevada, two sites in Texas, two sites in Utah and one site in Washington.

Also, as required by the Act, siting guidelines were developed. After a long review process, including several public hearings and consultation with affected States, Indian Tribes, and key Federal agencies, the Nuclear Regulatory Commission concurred with the guidelines and the siting guidelines were issued in final form in December 1984 and became effective January 7, 1985.

After issuance of the guidelines, we issued in December 1984, draft environmental assessments on each of the nine potential sites. These draft environmental assessments evaluated each site in terms of the siting guidelines and, when final, will be the basis for the nomination and recommendation of sites for site characterization.

In the draft environmental assessment, we announced the proposed sites for nomination and recommendation for site characterization. The proposed sites for nomination are:

- Deaf Smith County, Texas,
- Hanford, Washington,
- Yucca Mountain, Nevada,
- Davis Canyon, Utah, and
- Richton, Mississippi.

Of these five potential sites, we proposed to recommend to the President for site characterization:

- Deaf Smith County,
- Hanford, and
- Yucca Mountain.

Earlier this year, we conducted 19 public hearings and 50 formal briefings in the six States containing the nine potentially acceptable sites. We are now reviewing more than 20,000 comments received on these draft environmental assessments.

After we have completed this review, we plan to finalize the environmental assessments, formally nominate sites suitable for characterization and recommend three sites to the President for site characterization. We currently plan to do this late this year. At the time of recommendation, we expect to make the Section 114 Preliminary Determination as we have discussed recently in response to your comments on this approach and as discussed in the Mission Plan.

Consultation and Cooperation

The decision to characterize a particular site formally triggers the Nuclear Waste Policy Act's Consultation and Cooperation (C&C) agreement provisions between the Department and affected Tribe or State. However, well in advance of any legal requirement to do so, the State of Washington initiated Consultation and Cooperation agreement negotiations with DOE more than a year ago, as did the Yakima Indian Nation.

We have made considerable progress in reaching agreement with Washington on virtually all issues, the key exception being liability. Recently, the Confederated Tribes of the Umatilla Indian Reservation requested the initiation of C&C agreement negotiations and these discussions are presently underway. My staff reports that the initial sessions have been productive.

A Consultation and Cooperation agreement has the advantage of regularizing DOE and State or Tribe interactions. As called for in the Act, site characterization activity may proceed whether or not a Consultation and Cooperation agreement has been signed between the parties. However, I want to stress that we are committed to negotiating agreements with each of the affected parties and will diligently work to conclude agreements.

Site Characterization

To collect the subsurface data, construction of exploratory shafts at each of the three sites approved for characterization will be necessary. DOE plans to construct two shafts at each site. These shafts will be to the depth of a proposed repository -- about 1,000 to 4,000 feet deep. Shaft construction at the three sites will take approximately two years with in situ tests planned for FY 1988 through FY 1990.

Before proceeding to construct shafts at a site approved for characterization, the Act requires that DOE prepare a Site Characterization Plan. These plans will be submitted to NRC and the affected States and Indian Tribes for review and comment and will be made available to the public. Public hearings will be held in the vicinity of each candidate site to inform the area residents of the plan and to receive their comments.

During site characterization, DOE will regularly report and consult with NRC and affected States and Indian Tribes on the nature and extent of site characterization activities and the information developed from such activities.

Based on detailed technical information developed through subsurface studies which DOE will carry out during site characterization, DOE will evaluate each site and recommend one site to the President for the first repository. This recommendation will be accompanied by an Environmental Impact Statement which will have been prepared in accordance with Nuclear Waste Policy Act and National Environmental Policy Act requirements which include public review and comment and public hearings.

When the President recommends to Congress the site for the Nation's first repository, which is estimated to be in 1991, the host State Governor or legislature or affected Indian Tribe on whose reservation the repository is located may issue a notice of disapproval within 60 days of the President's recommendation. The disapproval can be overridden only by a resolution of both Houses of the U.S. Congress. Then Congress must weigh our facts against the State's or Tribe's objection.

If the disapproval is not overridden, the President is to submit another repository site recommendation to Congress within 12 months. If no disapproval is submitted, or if the disapproval is overridden, then as prescribed by the Act, the site designation is effective and DOE will submit to the NRC a License Application within 90 days.

Under the Nuclear Waste Policy Act, the NRC has three years to review the application. NRC has indicated that three years is the minimum licensing review period required unless effective steps are taken to identify and resolve potential licensing issues during the next six years. We believe that licensing issues can be identified and resolved through the effective use of the ongoing close and extensive interaction between DOE and NRC. We have allowed 27 months in the schedule for the NRC, which assumes the success of the program to resolve issues early.

With this schedule in mind, we believe we will be in a position to begin receiving waste for disposal by January 31, 1998.

Second Repository

While the Act does not authorize the construction of a second repository, it does require DOE to carry out the siting and development activities essential to preparation for such a facility. These activities trail those for the first repository by about five years.

For the second repository, DOE may consider:

(1) sites identified as potentially acceptable but not nominated for the first repository;

(2) sites characterized but not chosen for the first repository site; and,

(3) sites found potentially acceptable from rock formations not previously studied in the first repository selection process.

The screening process for the second repository is currently in the regional phase in which we have recently compiled open-literature information on the geologic and environmental conditions in crystalline rocks in 17 States in the North Central, Southeastern and Northeastern Regions of the country.

In April, we issued a document entitled, Region-to-Area Screening Methodology for the Crystalline Repository Project. The screening methodology will be used to narrow geologic focus from large regions to smaller areas in studies to identify potential crystalline sites. Using this screening methodology, later this year, we expect to identify approximately 15-20 areas in four-to-six of those 17 States in which area phase field work will be conducted. To date, no field testing has been conducted in those 17 States.

In implementing a waste disposal system, the Act places responsibility for the transportation of spent fuel and high-level waste on DOE, but also states that nothing in the Act shall be construed to affect Federal, State and local laws pertaining to the transportation of spent fuel and high-level waste. In addition, the Act directs that private industry be utilized to the fullest extent possible in performing the transportation functions.

Development of the transportation system is integral to the development and siting of repositories and in carrying out other activities within the total waste disposal system. Planning for the transportation system must provide for development and acquisition of the appropriate types and quantities of equipment and services as well as development of the appropriate institutional arrangements. In August, DOE published a draft Transportation Business Plan, which delineates activities within the development of a transportation system. A preliminary draft was issued last year. Since that time, several meetings have been held with interested parties to discuss transportation issues and to obtain private sector participation in the formulation of DOE's transportation business strategies.

We also plan to issue a draft Transportation Institutional Plan this month. This plan will propose processes and schedules for working with potentially affected and interested groups in the implementation of the transportation aspects of the Act.

Routing and certain other safety aspects of shipments will be in accordance with Department of Transportation regulations. Cask certification and safeguard procedures will be in accordance with NRC regulations.

Transportation is probably the part of our activities which is most visible. For this reason, even though routing decisions will not be made for many years, we expect an active dialogue with the Department of Transportation, the States, Tribes and other involved parties.

THE IMPROVED-PERFORMANCE PLAN

By considering all the elements of the program as part of a single integrated system, we believe we can best meet the program objectives.

The Improved Performance plan reflects the opportunities built into the Act to evaluate options for enhancing what is authorized. Careful analyses of the provisions of the Act and of programmatic options have shown that increased confidence and improved performance can be achieved by emphasizing systems integration.

This concept of optimizing the system by integrating the facilities and components applies not only to the authorized plan but also to any other waste management system that could be developed to meet the requirements of the Act. In particular, the Act requires DOE to complete a detailed study of the need for, and feasibility of, monitored retrievable storage (MRS) and submit a proposal to Congress for the construction of one or more MRS facilities.

Analyses to date continue to reinforce the tentative conclusion that an MRS facility fully integrated into the overall waste management system, as shown in the second chart, can significantly enhance several important program objectives. And those improvements include the following:

1. Improved transportation efficiency because spent fuel consolidation and packaging at the MRS facility would reduce the number of shipments to the repository with reduction in potential environmental impacts and risks to the public.

2. Increased reliability and flexibility in operating the system in an integrated cost-effective manner by incorporating an additional facility that can regulate the flow of waste to the repository.

3. Improved confidence in DOE's ability to meet schedules, particularly in beginning to accept quantities of waste no later than January 31, 1998. The integral MRS facility would be scheduled for initial operation as early as 1996.

4. An ability to accept significantly larger quantities of waste in the early years of operation, substantially reducing the added cost of providing increased at reactor storage capabilities. And,

5. Ability to focus repository licensing efforts on demonstrating the long-term isolation capability of the site because many of the operational functions, such as waste preparation, would be handled at the MRS facility.

In April, we identified three candidate sites expected to be included in a proposal to Congress. All three candidate sites are in Tennessee.

The studies and analyses necessary to fully describe the MRS facility and to define its potential costs and benefits are being prepared. The final results will be presented in a proposal to be submitted in January 1986 for Congressional consideration. Should the Congress approve the construction of an integrated MRS facility, our improved performance plan will become our program plan.

CONTINGENCY PLANS

All of us involved in and committed to putting in place a national nuclear waste disposal system under the Act recognize that this program is controversial. There are, indeed, many constituencies with widely varying views of how, when and whether elements of the program should be carried out.

Nevertheless, this is a program intended to span more than a century, with some choices by Congress, States, Indian Tribes and the nuclear power industry yet to be made. Contingency plans, therefore, must be considered.

First, our basic assumption is that the repository will be built on schedule. As shown in Chart 3, activities would proceed under the "Authorized Plan" or the "Improved Performance Plan" previously discussed. Should the repository be substantially delayed, however, one of two contingency approaches would be pursued:

1. If the MRS facility is approved by Congress and constructed, it can begin to accept spent fuel in a timely manner and package and store it within the limited storage capacity approved until a repository becomes operational.

2. If the MRS is not approved, or if it is significantly delayed, increasing quantities of spent fuel will have to be stored at reactor sites. In that event, the pools for storing the fuel will continue to be filled, and additional on-site storage capacity through the use of dry storage in casks and similar technologies would have to be employed.

In addition, the Act authorizes us to provide up to 1,900 metric tons of interim storage for utilities who run out of storage space prior to our accepting their spent fuel for disposal. And, further, we are conducting several cooperative agreements with utilities to demonstrate rod consolidation and dry storage technologies to make available new licensed technologies for more efficient storage capabilities at the reactor sites.

What happens if either no site is found acceptable or if the host State or States disapprove the selection and that disapproval is not overridden?

In this event, we have two main contingency plans:

1. If an MRS has been approved and constructed, it can accept spent fuel on or ahead of schedule, packaging and storing it within its limited storage capacity until the "second" repository is approved and operational. This would mean that the "second" repository could become the "first" repository.

2. If an MRS has not been approved, spent fuel will continue to be stored at reactor sites in fuel pools and possibly in dry storage.

Should no repository be constructed and an MRS facility not be approved, utilities would continue to be responsible for storing the spent fuel at reactor sites. In this event, the Nation would return to the situation where it had no viable, assured method for the permanent disposal of spent fuel and high-level waste.

We realize the difficulty in predicting the future and that there are many uncertainties -- some of which remain to be identified. I, therefore, believe that an important part of our planning is the development of contingency plans such as those I have just described.

CONCLUSION

By passage of the Act, the Congress clearly found that development and implementation of a waste disposal system for spent fuel and high-level waste is an important issue and that we must get on with it. As described in the Mission Plan, I think it is fair to say that we have adopted an optimistic approach. I believe that in a program of this magnitude and importance, adopting anything less would be absolutely self-fulfilling.

We may not do as well as we plan to do, and, when we get down the road, we may find reasons why we should change certain plans. If that turns out to be the case, we will change them.

But until then, it seems to me that the right management choice, the right choice for assuring protection of public health, safety and environment is to proceed with the expectation that we will be able to address legal challenges, institutional issues and technical issues. And that is the course that we are taking and which is described in the Mission Plan.

This concludes my prepared testimony. I will be happy to respond to questions you or Members of the Subcommittee may have.

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MISSION PLAN FOR THE CIVILIAN RADIOACTIVE WASTE MANAGEMENT

SUMMARY OF KEY ISSUES RAISED DURING REVIEW

The key issues that emerged during the review of the draft Mission Plan and DOE's proposed resolution, as presented in the Mission Plan, are as follows:

1. Institutional Relations

Many people commented on the imbalance in the draft Mission Plan between the amount of information and discussion on technical areas such as repository site geology versus institutional issues such as the appropriate role of States and affected Indian tribes in review of program documents. The draft Mission Plan was criticized for being overly optimistic in its assessment of problems with States, inadequate airing of public views, insufficiently involving States and Indian Tribes in decision-making, and providing inadequate educational activities and information especially on the Consultation and Cooperation (C&C) process. More information was requested on procedures for the "management plan" to resolve financial, political, legal and institutional conflicts.

In response, DOE added an entirely new chapter to Part I of the Mission Plan on Institutional Relations. This chapter reiterates and expands on DOE's policy to promote "full, open and timely sharing of information" and describes the process for conducting these activities.

2. Plans for Defense Waste

Nearly all parties -- States, environmental groups, utilities, etc. -- wanted more information on the plans to dispose of defense waste.

Since issuing the draft Mission Plan, DOE completed a comparative evaluation of disposing of defense waste in a separate defense-only repository, or putting it in the civilian repositories. This study concluded that there was no compelling need for a defense-waste-only repository and that a cost savings will result if defense waste were disposed of in a civilian repository. This report was forwarded to the President for his evaluation as required by the Act. On April 30, 1985, the President notified DOE that he found no basis to conclude that a defense-only repository is required and he directed the Secretary to proceed to dispose of defense waste in the civilian repositories in conformance with the Act. As reflected in the Mission Plan, this course of action is now being pursued.

3. Waste Acceptance Beginning in 1998

The comments in this area were almost evenly divided between those seeking a strong DOE commitment to begin accepting waste by 1998, and those opposing such a commitment. In general, the utilities favored the commitment citing DOE's obligation under the "Standard Contract for Disposal of Spent Nuclear Fuel and/or High-Level Radioactive Waste." The States and the environmental groups emphasized the need for sound, defensible decision-making regardless of time constraints.

DOE recognizes both concerns and is planning to meet both obligations. The Mission Plan discusses at length waste management systems scheduled to begin operation no later than 1998 to accept and dispose of commercially generated spent fuel and high-level radioactive waste in a manner that protects the health and safety of the public and maintains the quality of the environment. At the same time, however, DOE recognizes the need to do contingency planning in the event of program delays. These activities will continue and be expanded.

4. Repository Schedule

The overwhelming majority of comments about the repository schedule stated that it was too optimistic to be achievable. Reasons for lack of confidence in the schedule included: suspect sequencing of activities to meet 1998, near-term dates missed by the end of the Mission Plan comment period, and short public review periods for program documents. Commentors suggested that the reference schedule should be DOE's best estimate of what is achievable, not what would have to occur to meet the 1998 deadline.

DOE recognizes that the reference schedule portrayed in the Mission Plan is success-oriented and aggressive. DOE regards the Mission Plan as the vehicle to present today's best estimate of what is required to be done. If unforeseen problems develop or litigation delays the program, the schedule will be altered.

5. Site Characterization and Recommendation

Many commentors requested that the Mission Plan describe the site recommendation decision methodology and how program participants will contribute to the decision process. Commentors were divided with respect to DOE's position on the timing of the Act's requirement for the preliminary determination that sites are suitable for development as repositories.

Since the draft Mission Plan was issued in April 1984, DOE issued Draft Environmental Assessments on each of the nine potentially acceptable sites for the first repository. These documents discuss in detail the process by which the proposed recommended sites were selected. With regard to the preliminary determination that sites are suitable for development as repositories, the Mission Plan states that DOE intends to make that determination at the same time as the recommendation of three sites for characterization.

6. Need for Second Exploratory Shaft

Many comments were offered concerning the need for a second shaft at each characterized site. The Nuclear Regulatory Commission (NRC) wanted additional information which justifies the large diameter of the second shaft. Many commentors, particulary State representatives, stated that the decision should be based on exploration or safety concerns and not on construction schedule savings.

DOE is planning to sink two exploratory shafts at each candidate site. The second shaft will be sized to support the safe operation of the underground testing program and will provide flexibility in the scope and duration of in situ testing.

7. Second Repository

Many commentors suggested that the Mission Plan provide more detail and schedule analysis for the second repository. Some suggested that the first and second repository schedules should be integrated and that the site nominations for the second repository should not occur before site selection for the first repository.

Revised schedules for both the first and second repositories are included in the Mission Plan. The schedules have been adjusted to make maximum benefit in the second repository program of key information and results from the first. Current plans call for DOE to recommend the first site for repository development before the sites for the second repository are nominated for characterization.

8. Monitored Retrievable Storage

DOE was requested to be more explicit about the criteria to determine whether Monitored Retrievable Storage (MRS) is needed. The utilities asked that the Monitored Retrievable Storage facility siting and licensing processes be established and initiated as soon as possible.

In the draft Mission Plan, the MRS was described as a backup to the repository in the event of major delays. Since issuance of the draft Mission Plan, analysis by DOE has led to the conclusion that an MRS facility should be an integral part of the total waste management system. Such a facility could perform spent fuel preparation and packaging functions at a central location before shipment to a repository for permanent disposal. Performance of these functions at an MRS facility centrally located to the majority of the commercial generators of spent fuel could contribute significantly to overall systems efficiency and timeliness while reducing the total shipment miles. The Mission Plan reflects the recent announcement of three potential sites for a proposed MRS facility and preparation of the MRS proposal to Congress required by the Act.

9. Transportation

Several commentors, primarily State representatives, criticized the general treatment of transportation complexities and importance as inadequate. Some portrayed the resolution of transportation issues as the most significant obstacle to siting and operating a repository. Among the issues most frequently raised were: prenotification to States and communities of waste shipments; emergency response capabilities; safety and security of transportation casks; and resolution of legal and regulatory conflicts.

The purpose of the Mission Plan is to provide an overview of program goals and an outline of current program policies and plans. The Mission Plan now incorporates a more detailed account of transportation issues than was contained in the draft Mission Plan. However, an in-depth discussion of the above issues is reserved for two supplementary documents: the Transportation Business Plan and the Transportation Institutional Plan scheduled for release in draft form later this year.

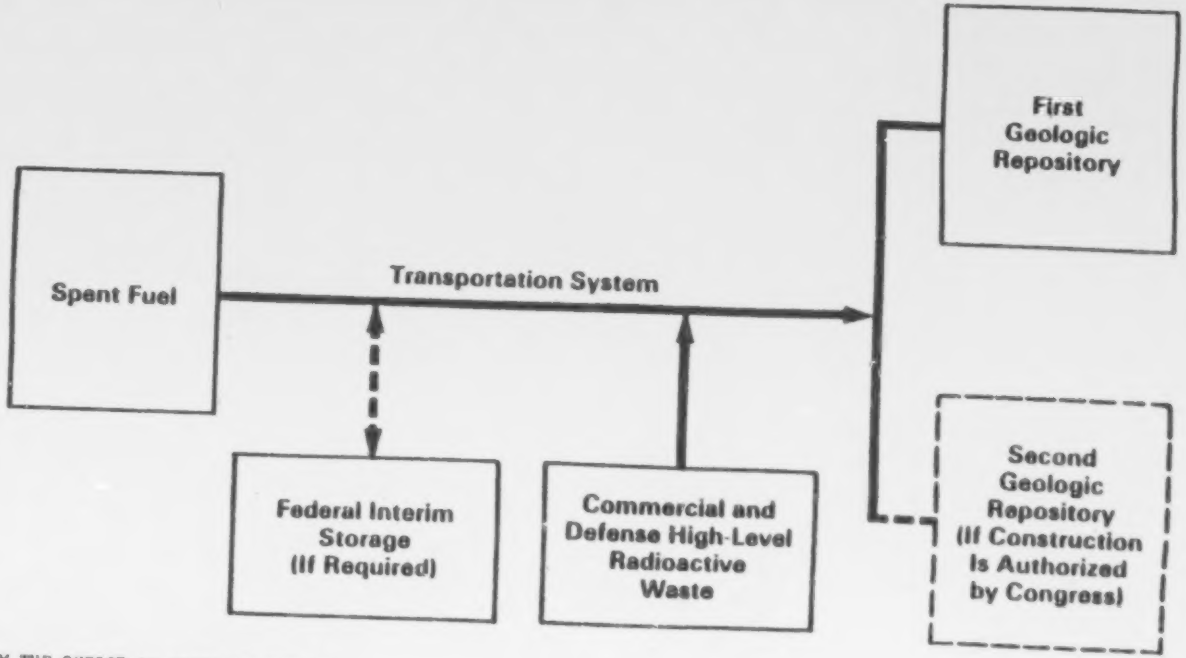
10. Need for Strong Management and Quality Assurance

Many reviewers advised that strong, centralized management is needed for program elements such as policy formulation, program planning, program implementation, funds control, legal affairs and coordination with other interested parties. Most of the concerns centered around the decision to execute the program through a network of decentralized operations offices. Many commentors, especially the NRC, felt the description of DOE's quality assurance program contained in the Mission Plan was inadequate.

DOE agrees that strong centralized management is necessary and has rewritten the Program Management Chapter to provide a more complete description of the system being implemented by the Office of Civilian Radioactive Waste Management (OCRWM). The Mission Plan has clarified that while execution of the program by DOE operations offices and contractors is decentralized, overall policy formulation, program planning, and management control is centralized at Headquarters in Washington, D.C. A new section on Quality Assurance has been added to the Program Management Chapter to provide a more detailed discussion of the Quality Assurance activities.

July 1985

Authorized System



Spent Fuel

Transportation System

Federal Interim Storage (If Required)

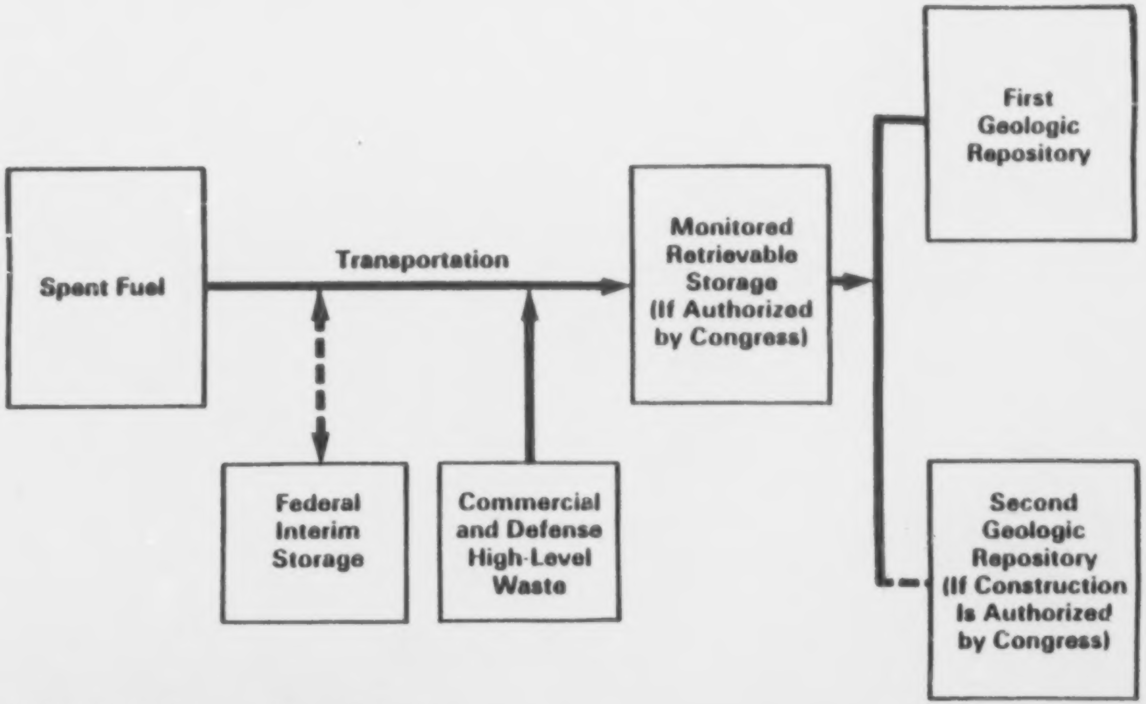
Commercial and Defense High-Level Radioactive Waste

First Geologic Repository

Second Geologic Repository (If Construction Is Authorized by Congress)

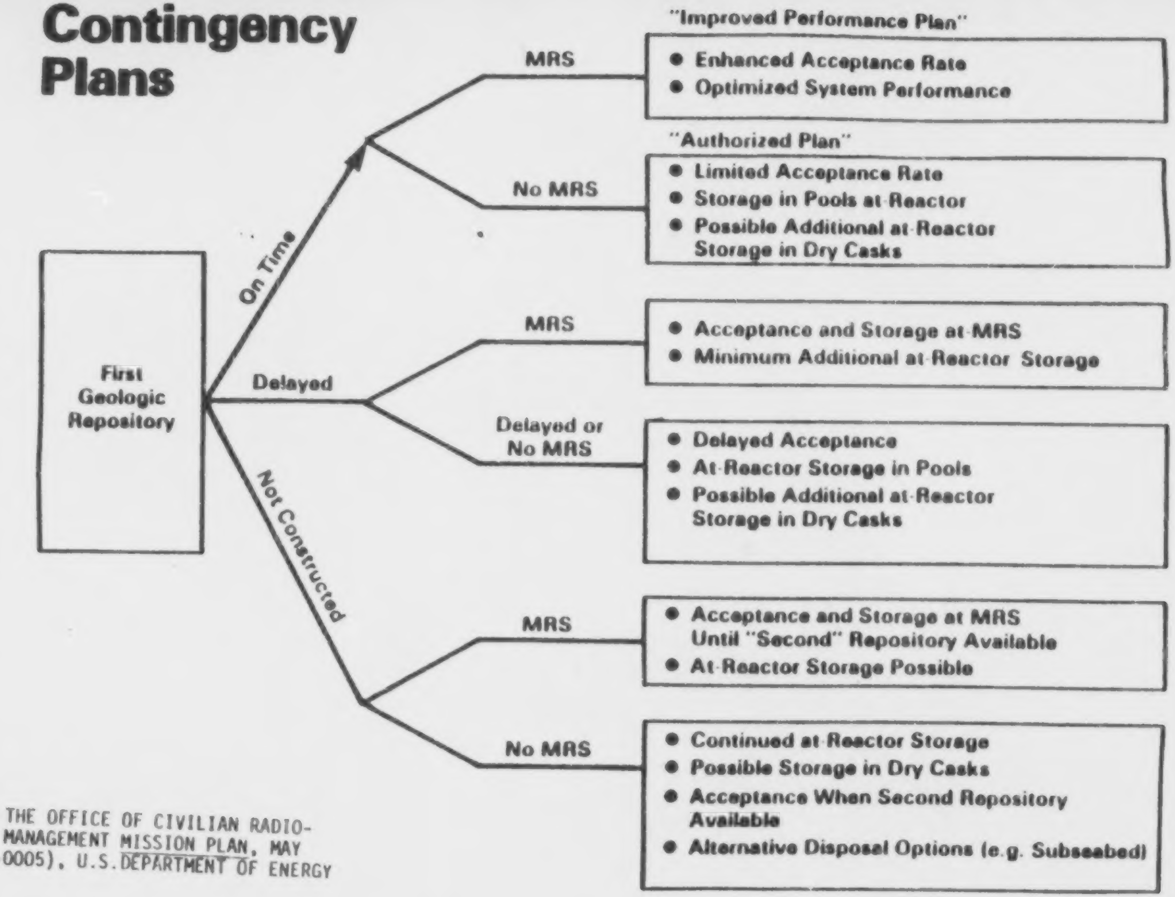
EXCERPT FROM THE OFFICE OF CIVILIAN RADIOACTIVE WASTE MANAGEMENT MISSION PLAN, MAY 1985 (DOE/RW-0005), U.S. DEPARTMENT OF ENERGY

Improved Performance System


Spent Fuel
Transportation
Federal Interim Storage
Commercial and Defense High-Level Waste
Monitored Retrievable Storage (If Authorized by Congress)
First Geologic Repository
Second Geologic Repository (If Construction Is Authorized by Congress)

EXCERPT FROM THE OFFICE OF CIVILIAN RADIOACTIVE WASTE MANAGEMENT MISSION PLAN, MAY 1985 (DOE/RW-0005), U.S. DEPARTMENT OF ENERGY

Contingency Plans


First Geologic Repository
On Time
Delayed
Not Constructed
MRS
"Improved Performance Plan"
● Enhanced Acceptance Rate
● Optimized System Performance
No MRS
"Authorized Plan"
● Limited Acceptance Rate
● Storage in Pools at Reactor
● Possible Additional at-Reactor Storage in Dry Casks
MRS
● Acceptance and Storage at MRS
● Minimum Additional at-Reactor Storage
Delayed or No MRS
● Delayed Acceptance
● At-Reactor Storage in Pools
● Possible Additional at-Reactor Storage in Dry Casks
MRS
● Acceptance and Storage at MRS Until "Second" Repository Available
● At-Reactor Storage Possible
No MRS
● Continued at-Reactor Storage
● Possible Storage in Dry Casks
● Acceptance When Second Repository Available
● Alternative Disposal Options (e.g. Subseabed)

EXCERPT FROM THE OFFICE OF CIVILIAN RADIO-ACTIVE WASTE MANAGEMENT MISSION PLAN, MAY 1985 (DOE/RW-0005), U.S. DEPARTMENT OF ENERGY

Senator Domenici. Thank you very much. I have a number of questions, but I think what I will do at the outset is yield for a while to Senators who are here, and then take mine in due course. So I would first yield now to Senator Hecht for questions if he has any.

Senator Hecht. Thank you, Mr. Chairman.

Since I'm a little bit smaller, may I stand up, because this is a big issue. This is the Las Vegas Sun, September 7 headline. This is a September 8 Las Vegas Sun headline.

The reason I am holding this up is because what Senator Johnston alluded to, the hysteria in this particular program. Now, Mr. Rusche, according to these two issues, you have asked the Nuclear Regulatory Commission to name one final site for a permanent high-level nuclear repository without further studies.

Is this newspaper account, with front-page banner headlines, correct?

Mr. Rusche. No, sir; it is incorrect.

Senator Hecht. Would you elaborate on that please?

Mr. Rusche. Senator, I can't be very confident about what was in the mind of the writer of the article, but I can tell you what we are planning to do, and perhaps that's the best statement I could make.

Under the law and under the provisions of the mission plan, we are charged with nominating five sites as suitable for characterization, and selecting three of those sites for characterization. We plan to do that at the end of this year on the basis of the extensive public review, as well as our own work on the environmental assessments.

We expect to undertake those geologic explorations and investigations, design, analyses studies over the next several years. It will be 1990 or 1991 before we are in a position to try to select one of those sites as appropriate for an application to the NRC. And our application is just that—an application. Our selection and the determination of a site for the final repository must then go through an extensive process through the NRC's procedures and it will be 1994 before that process is finalized.

Senator Hecht. Just to set the record straight, is it correct to say that the Department of Energy has not changed the selection process and that no designation will be made without comprehensive scientific tests?

Mr. Rusche. That is a correct statement, sir.

Senator Hecht. The State of Nevada has been trying to get Federal money for independent research at Yucca Mountain and sued DOE for the money.

Why can't Nevada or Texas or Washington State conduct their own independent studies?

Mr. Rusche. Each of the States has the opportunity under the act to apply for grants to conduct studies and analyses and, in fact, every one of the States has. As of the moment, we have committed over $19 million to the States, including Nevada. Nevada itself, by the end of this year, will have received $2,894,000 to conduct such studies.

I believe the point that you're referring to specifically is that Nevada, in its most recent request, asked not only to do studies, but to conduct exploratory drillings and explorations of a physical character in or in the vicinity of the sites that we are considering.

We concluded, and it is the subject of the lawsuit, that that was an inappropriate activity for the State. We will make available, have made available, all the data that is obtained for their analysis and consideration, and we will continue to do so.

Senator HECHT. What restrictions are placed on a State in this regard?

Mr. RUSCHE. We believe it would be inappropriate for the State or any other bodies outside the conduct of the program to be conducting its own geologic in situ explorations; that is, drilling holes, conducting measurements, making excavations and so forth, primarily on the grounds that a very unfortunate experience occurred several years ago in this program when it was found that other people at other times had in effect compromised a site in Kansas.

We have learned the lesson that in order to be sure of the fidelity of the site geologically, hydrologically, that it is absolutely essential that we conduct a coordinated program and not have several parties going off on their own, doing what they think appropriate.

Senator HECHT. In the same article in the Las Vegas Sun, Gov. Richard Bryant is quoted as saying: "It is clear that the Federal Government intends to move forward regardless of what scientific evidence indicates."

What is your response?

Mr. RUSCHE. I don't see how that statement could have been made by any person who has evaluated or looked at the extensive work that has been done so far, and the work that is currently planned. We have under development with the States that are involved what is called a site characterization plan which is for the explicit purpose of doing the scientific engineering work on the sites through geologic and hydrologic exploration, under the leadership or under the direction and cooperation of the NRC, to do extensive scientific and technical work.

I believe if there's one statement that I've made more times than any other, it is that if this program does not rest on a sound technical basis, that it has no basis for resting at all. It will not succeed. We intend to see that it succeeds on the basis of a sound extensive technical program.

Senator HECHT. How can Nevada State officials become so confused?

Robert Loux, Nevada's Nuclear Waste Project Manager, was also quoted as saying, "The administration's move Friday narrows the current three sites down to one, without any further data. DOE will never pick Texas for political reasons, and Washington cannot meet license requirements of the NRC, and that means we're being railroaded."

Isn't Mr. Loux working closely with your office?

Mr. RUSCHE. I believe Mr. Loux is the director of the Nevada State Office for Waste Management. I am not in the position to analyze why he made such a statement, but it is inconsistent with fact.

Senator HECHT. He is going to testify later today, and I want to see if he actually made this statement. I'll give him the benefit.

Mr. RUSCHE. Thank you.

Senator HECHT. Let me also clarify one point which I think you did. The earliest any State could accept nuclear waste would be 1998; is that correct?

Mr. RUSCHE. For a repository, that is correct.

Senator HECHT. That is correct.

OK. In Nevada, there has developed in certain areas a strong antinuclear attitude from many public officials. We in Nevada have the Nevada Test Site. We have the free world's largest laboratory, and we're very proud of it. We're doing a great deal for the security of America and the free world.

We are also pursuing other programs, the SP-100, a large part of the strategic defense initiative of the President and Secretary Weinberger.

In your opinion, do you feel this antinuclear attitude will hurt Nevada's chances for these programs which I have mentioned, which are nuclear?

Mr. RUSCHE. Senator, it would be unwise for me to characterize the attitude of the State, whether it be antinuclear or not, but I can tell you the response of the State's officials is an important element in all of these considerations, and nowhere is it more important than in the program that we're talking about today. And I am sure that all of the activities that are considered in working with a State, the Federal Government, and particularly DOE to find that question of their attitude a very important factor in how we proceed in the future.

Senator HECHT. Mr. Chairman, in the essence of time—there are other Senators—I've held my remarks to 10 minutes. When everyone else is finished, I'd like to continue.

Senator DOMENICI. We'll give you that privilege. Would you like those newspaper accounts made a part of the record, Senator?

Senator HECHT. Thank you very much, Mr. Chairman.

Senator DOMENICI. They'll be made a part of the record.

[The articles referred to follow:]

[From the Las Vegas Sun, Sept. 7, 1985]

NUKE TRAIN COULD GO TO HIGH COURT

(By Mary Manning)

Attorney General Brian McKay said Friday he would try to move a dispute between New Jersey and Nevada over a train carrying low level radioactive waste to the U.S. Supreme Court.

McKay said his office is asking the U.S. District Court in Las Vegas next Tuesday to dismiss the suit by New Jersey. The attorney general's office will argue that the Supreme Court has jurisdiction over the dispute because it is between two states.

New Jersey has filed suit challenging two state regulations which govern packaging and transportation of nuclear waste material by rail. The suit said this field is preempted by federal regulations.

However, McKay will argue that federal law places exclusive jurisdiction in the U.S. Supreme Court and the U.S. District Court has no jurisdiction, Deputy Attorney General William Isaeff said.

Nevada and local governments have been trying to stop the shipment of contaminated soils by Union Pacific Railroad to a nuclear dump in Beatty, about 100 miles from Las Vegas.

The train must go through Las Vegas before unloading and the city is adopting a new regulation to inspect and collect fees on hazardous waste shipments, including radioactive materials.

More than 7,200 tons of radioactive dirt is being excavated from beneath 12 expensive homes in the Montclair area in New Jersey, put in cannisters for shipment to Nevada by Union Pacific railroad on a $1.4 million contract from the state of New Jersey.

McKay filed his request late Friday, arguing the case is between two states and both the Constitution and federal law place exclusive jurisdiction in the high court.

When states joined the Union, Isaeff explained, they gave up some independence to the federal government, including treaty-making rights and using force against one another. Instead, they are allowed to use the forum of the U.S. Supreme Court to conduct disputes, he added.

Our argument will be this is one sovereign state against another sovereign state," Isaeff said.

Clark County, Las Vegas and North Las Vegas filed suit to prevent the five trainloads of contaminated dirt from coming to downtown Las Vegas behind the Union Plaza Hotel for a five-day wait until shipment by truck to Beatty's commercial low-level waste dump.

Union Pacific and New Jersey moved the action to U.S. District Court and federal Judge Lloyd George agreed with them that the soils could come to Las Vegas.

However, an error in a scientific consultant's testimony caused the railroad to delay shipments of the soils—scheduled to begin at the end of July—until an independent study was completed by Batelle laboratories.

Then the Nevada Public Service Commission proposed emergency shipping and route regulations on the trains and Gov. Richard Bryan signed them into effect for 120 days last week.

The current legal action is the result of the PSC's rules and the failure of Human Resource Director Jerry Griepentrog to sign an inspection permit allowing the radioactive shipments into Nevada.

[From the Las Vegas Sun, Sept. 8, 1985]

WHERE I STAND

(By Hank Greenspun)

Save the good ol' USA.

For the benefit of Nevada's congressional delegation, this history lesson should be elemental. But for the Republican segment, it requires some reminder.

The United States is now divided into 50 states plus a few dependencies composing the entire union. We are a republic with each state having equal representation in the Senate, two senators to a state.

If both of our senators say it is Nevada's patriotic duty to keep our nation from being inundated with nuclear waste by accepting the contaminated garbage from the other 49 states for storage here, while the other 98 senators say it is their patriotic duty to keep the waste out of their states, it is a cinch that Nevada will wind up as the nuke dump of the country.

Both Senators Paul Laxalt and Chic Hecht have stated they are against nuclear contamination of the state, but the former thinks we have a patriotic mission to perform and he will not use his personal friendship with President Reagan to advance the interests of Nevada if it is not in the best interests of the country.

The other senator thinks we should let the dumping proceed and make up our minds after all the studies are in. Hecht also believes Nevada has a patriotic mission in accepting the waste if the president so says.

It now appears that the Department of Energy will make its decision without further studies because the earliest they could be completed would be around 1995.

For the benefit of both Nevada U.S. senators, the patriotism of Nevada's citizens should never be questioned.

History will show that our birth as a state came about when a nation had to be saved. During the Civil War, President Abe Lincoln needed one more vote to put through his anti-slavery amendment. The war effort which was raging at the time needed Nevada's gold and silver if the Union was to survive. Lincoln got both the vote and the funds to keep the Union army in arms and ammunition.

Nevada did its part to save the country.

No state has more of its area dedicated to the federal government. The ammunition depot at Hawthorne has served during war and peace. Nellis Air Force Base is the pre-eminent training ground in the country for Air Force and Navy pilots to learn their trade while flying Nevada skies.

Hoover Dam supplies a major part of California's energy to keep the large defense plants operating.

Mercury has kept the country ahead of all other nations with its nuclear testing of weaponry while shocking Las Vegas residents out of their beds with the atomic blasts.

Las Vegas and Utah have experienced far more leukemia and cancer deaths than any other area as a result of its loyalty and patriotism to the nation's defense effort.

The list is far too long of our contributions to the country, of which we are proud, to justify our accepting the radioactive contaminated soil and other wastes from New Jersey or any other state.

We do not need lessons in patriotism from anyone, including our senators, because the entire southern half of our state objects to becoming the nation's garbage pit for nuclear waste.

Now we are told that we have to keep our options open because we have a responsibility to our country and that must be our overriding concern.

We have also been told by our junior senator that we must not take a "hysterical attitude" because the DOE has informed him that new advances have been made recently for recycling nuke waste, but it is too expensive. Is it any more expensive than the health, safety and welfare of Nevada citizens—including children yet unborn?

If our two United States senators are sincere about their opposition to contaminating Nevada with the perilous wastes, the SUN has an excellent compromise to suggest to Sen. Laxalt which he can discuss with his "best friend" in the White House.

When it comes to the welfare of our state, its resources and its people, the SUN can give all the politicians lessons in history—past, present and future.

There is a vast, almost forsaken area west of Beatty known as Death Valley. It happens to be an ideal place to bury anything, including all the corpses from contract murders in New Jersey which now repose in Jersey swamps.

The perfect attributes of Death Valley as a final resting place for all contamination will be discussed in succeeding columns as space prohibits further history lessons today.

But until all my studies are completed, I would graciously ask that both our senators keep their options open and their mouths semi-closed until all the "best friends" can get together and come up with the proper solution.

Death Valley may turn out to be the ideal burying place for the Department of Energy, their studies and all those politicians who want to make Nevada the nuke dumping ground of the country—if not the whole world.

[From the Las Vegas Sun, Sept. 8, 1985]

REAGAN ADMINISTRATION "SURPRISES" LAXALT

GUV: WE'LL SUE U.S. OVER DUMP

(By Mary Manning)

Gov. Richard Bryan said Nevada will sue the United States government if the Nuclear Regulatory Commission grants a Reagan administration request to name Yucca Mountain as the nation's first high-level nuclear dump without further scientific studies required by law.

"The state of Nevada would have to file suit and litigate the matter," the governor said.

Picking a site first breaks the government's own laws for placing the controversial nuclear repository, he said.

And Paul Laxalt, Nevada's senior senator, said he doesn't understand the administration's position and was "surprised" at the announcement at Friday's NRC meeting. He said he will meet with Energy Secretary John Herrington to find out what happened.

On Friday, Ben Rusche, director of the Department of Energy's Civilian Nuclear Waste Management Office, asked the NRC to announce a final site for the repository without the further scientific studies called for the DOE's own guidelines.

Rusche's press secretary said, "The quote was garbled" in subsequent news stories.

Laxalt, considered President Ronaid Reagan's best friend on Capitol Hill, announced recently he will not run for another term next year. He has strongly urged Bryan and Rep. Harry Ried to "wait and see" what government studies would reveal at the top three nuclear waste site choices—including Yucca Mountain, 60 miles from Las Vegas, Hanford, Wash., and Deaf Smith County, Texas—before opposing the 10,000-year grave for radioactive wastes accumulated over 30 years from civilian and military projects.

Laxalt said Friday Congress and Nevada had been following government guidelines "to the letter" and added he does not understand why the Reagan administration decided to postpone indefinitely further scientific studies.

Nevada has been trying to get federal money for independent research at Yucca Mountain and sued DOE for the money last year. DOE insists the state can review federal information, but new studies would be redundant.

Nevada's Nuclear Waste Management Director Robert Loux, who works under the governor's office, called the move that could take 70,000 tons of highly radioactive waste from nuclear power plants and defense projects into Yucca Mountain "railroading."

The first high-level repository is expected to be open for business in 1998.

Rusche said at Friday's hearing if the NRC does not allow DOE to declare a final site, the timetable in the Nuclear Waste Policy Act of 1982 may slip.

However, Loux said intensive scientific studies were part of a compromise worked out between the Senate and the House before DOE's guidelines were approved.

Loux said the House wanted a full environmental impact statement that could take the federal government three years on each of the nine original sites, but after a House-Senate conference only an environmental assessment was required on final siting choices.

DOE's draft environmental assessment was released Dec. 20, 1984, naming Nevada, Texas and Washington as the top three site locations.

DOE spokesman Chris West in Las Vegas said the final environmental assessment is scheduled to be released this December or January, a full six months behind the government timetable, and no final sites will be named, he added.

Yet the congressional agreement mandated scientific studies before a final site was chosen by Congress and the president, Loux said.

Senator **Domenici**. I think you might have given the Chair a good suggestion. Could we, first round, keep the questioning to 10 minutes? In no way is that going to restrict anybody. We'll come back if there are more. I'm not going to take mine now, but let me just ask you a question.

With reference to the grant to the States that's provided for in the statute to permit them to put together the kind of expertise that will permit them to make objective determinations, make objective and intelligent input, you have indicated that each State is participating, but that with reference to such things as the drilling, geological exploration and the like, that you are not granting individual money for that because it's the position that they ought not be doing that, separate and apart from what you're doing.

And I understand that from the standpoint of science, engineering, geology. But might I ask, to what extent is the plan for such shared with the State, and to what extent does the State have expertise to pass judgment on the propriety of those kinds of activities, and to make interpretations separate and apart from those that you made?

Mr. **Rusche**. Mr. Chairman, I believe there are two elements to your question. One is with respect to the planning and input.

The act provides, and we are now in the process of engaging in an extensive interactive exercise with the States, Indian tribes, and with NRC to develop the site characterization plan which is a document which describes the nature of the questions that we believe must be answered in order to make a technically sound decision about the acceptability of the site.

Those documents are in preparation now, and the States have an opportunity to participate through a number of means, as does the NRC. I believe that speaks to the point of their ability to think about, to contribute to the planning with respect to its propriety and effectiveness.

With respect to the data that is generated, the data that we generate is subject to the most rigorous of quality assurance oversight by many parties and is readily available and fully available to all the parties who have an interest, and the States in particular have ready access to such data, for example, out of the characterization program when it becomes available, and are fully free and funded to make their independent evaluation and judgment of the substance and meaning of that data.

Senator DOMENICI. So do I understand now that before site characterization, including the drilling of holes to find out the entire geological strata and scientific information about that, that that is done in conjunction with the NRC, that overall plan?

Mr. RUSCHE. It is prepared and subject to their comment, and obviously, since it is their determination in the end as to its adequacy, it behooves us both to be of a common mind.

Senator DOMENICI. All right.

Then do I understand that this issue that is raised by the distinguished Senator from Nevada and apparently raised by the officials of the State of Nevada, that they would say even if you are going to do that and do it in that way, they would like to do some of their own, in terms of site characterization? Is that the issue that I hear raised?

Mr. RUSCHE. I believe that's a fair statement. I think site characterization has taken on a special meaning, and I would say they would probably use words like "site exploration," or "site investigation."

Senator DOMENICI. All right.

I really believe—and I'm not out there in the field on this—but it just seems to me that if a group of intelligent scientists and engineers and geologists sat around a table—including theirs—that they could all conclude that to drill 10 holes is—you decide that they're going to be drilled, and everybody gets the same information, and why somebody would end up concluding they want to drill on their own doesn't seem to me to be adding anything to the scientific base.

It seems this could be resolved.

Mr. RUSCHE. Well, we're working to resolve it. I'm sure other States represented this morning will have their own view about the subject. It is our objective to try to resolve it.

If I might just make the point which alludes to an earlier statement you made, the exercise that's going in your State is a very excellent model for us to look at. And if you recall, your State has an oversight group funded by the Department who evaluates, make suggestions, and provide input to your Governor as to the adequacy of the program that's being carried out with respect to the WIPP facility. I think all of the States who are here are familiar with that program, and I hope that as we get into the physical work and away from the verbal work that we are doing, that we will all move in that direction of joint participation, and work in that manner.

Senator DOMENICI. Thank you very much.

Senator Ford.

Senator FORD. Mr. Rusche, let me ask you—you say in your testimony on page 18, what happens if either no site is found acceptable or the host State or States disapprove the selection, and that disapproval is not overridden? Who has the ability to override a decision of the State?

Mr. RUSCHE. Both Houses of the Congress.

Senator FORD. Both Houses of Congress would have to override Kentucky's disapproval of a site in its State.

Mr. RUSCHE. Correct.

Senator FORD. How would the State then have the ability to disapprove?

Mr. RUSCHE. Well, under the act, for a repository or for the MRS, the State makes its view known to the Congress through a fairly defined procedure; in effect, says we disapprove this selection for these reasons.

Senator FORD. So there's the Congress then—if they accept DOE's proposal—I thought that was the law. I haven't been following this as closely as I should. But when you make a recommendation to Congress and Congress then approves that, isn't that a matter of law and that's the way it has to be done? That's on the MRS, I guess.

Mr. RUSCHE. It is. In either case, it's a matter of law and the literal procedure may vary slightly. For example, on the MRS, when we bring the proposal to Congress in January, there will come with it the input from the State of Tennessee which will say whatever it will say. If Senator Gore's view prevails, it will be that we disapprove of the location of the site in Tennessee.

Senator GORE. If my prediction is accurate.

Senator DOMENICI. He didn't say his position. He made a prediction.

Senator GORE. If my prediction is accurate.

Mr. RUSCHE. If the Senator's prediction is accurate, the State of Tennessee would make such a statement. Then it would be the congressional obligation, if I may put it that way, to review that and decide whether that view should prevail or whether Congress should act and appropriate funds and approve the course of action that we have laid out.

Senator FORD. What transportation program will be involved in this procedure?

Mr. RUSCHE. The transportation program is a very pervasive activity, whether or not——

Senator FORD. Pervasive or evasive?

Mr. RUSCHE. Pervasive.

Senator FORD. OK.

Mr. RUSCHE. No, sir; it's not very evasive at all. It's unavoidable.

Senator FORD. All right. But tell me how that was going—you see, we've been expecting, as I said in my statement, that most of this garbage would not come in our area; it would go someplace else. And now the garbage is arriving, going through our State to get to Tennessee.

And if everything, if the predictions or hopes or whatever they might be come true, it might be something else. But now, we'll be saddled, if I can use that term, with the transportation. It will either be by truck or by rail. In some places you've got 8-mile-an-hour tracks that you can pull the spikes of, so 8-mile-an-hour track, so you have to be very careful with that.

Mr. RUSCHE. Yes, sir.

Senator FORD. Then it will be transported by trucks that they say are infallible, and it's awful hard to make any human—you shake your head, that's not true. Then we have to look at the sheriffs in our various 120 counties, and this transportation that will go over their roads. You've got me in a position—I'm going to look at this like you split a watermelon open and check every seed.

Tell me about transportation.

Mr. RUSCHE. Transportation's the process of picking up the fuel where it originates and taking it to either the repository, if there is no MRS, or the MRS and then subsequently to the repository.

The plans for doing that are being developed in two specific ways. We have in draft form, before the public now, and you, if you care to participate——

Senator FORD. I'm going to participate, don't you worry.

Mr. RUSCHE. Well, we have a transportation business plan which describes the process that we're going through to eventually put in place the system which will carry the fuel. That plan has been out in draft form twice, and is now out in final draft form, and we hope to have comments on it by just about now.

Senator FORD. You talk about a system. Is that system going to include various modes of transportation?

Mr. RUSCHE. Various modes of transportation, various modes of ownership, various modes of management, various kinds of equipment, various strategies.

Senator FORD. It's going to be a mixed bag.

Mr. RUSCHE. Well, I'd like to think of it as a very effective bag.

Senator FORD. Well, it's mixed, though.

Mr. RUSCHE. In terms of mode of transportation?

Senator FORD. Yes, and management and ownership and lots of things.

Mr. RUSCHE. Those are things that we want to make a determination on.

Senator FORD. What kind of pressure in this strategy will be placed upon the States to regulate transportation? Are the States required to put into law within their States as it relates to transportation through it; or will it be mandated and overridden by the Federal Government?

Mr. RUSCHE. I believe both elements will exist. There are certain elements of transportation regulation that are vested with the Department of Transportation with respect to this particular matter, hazardous waste, or nuclear waste, with respect to the selection of routes. And the Department of Transportation, I believe, gives full weight to the States in their views.

But in the end, the Department of Transportation validates the routes as being acceptable routes, whether by rail or by highway. The shipping containers and equipment are subject to the approval of NRC as to their validity, their safety acceptability. Those are the two important elements.

Senator FORD. Well, NRC's going to have a hard time convincing the public that their safety procedures and their approval is going to be——

Let me just ask you one quick question. My 10 minutes are about up. What is the status of the negotiations with DOE defense programs for acceptance of defense nuclear waste?

Mr. RUSCHE. The decision to accept defense nuclear waste has been made, was made by the President in April of this year, under the law. The matter that is yet to be finally resolved is quite how it's to be paid for, and as I indicated in my testimony, we hope to have a plan for public review within the next short while.

Senator FORD. What is a short while?

Mr. RUSCHE. A month, 2 months.

Senator FORD. So you don't know how the defense program will pay for its waste disposal?

Mr. RUSCHE. I do not yet.

Senator FORD. OK. They're probably out of money.

Mr. RUSCHE. Sir?

Senator FORD. They're probably out of money.

Mr. RUSCHE. Under the act, they are required to pay for it, sir.

Senator FORD. Do you have a time when the waste would be accepted, under the best of——

Mr. RUSCHE. 1998.

Senator FORD. 1998. That would be the first time any defense waste would be accepted?

Mr. RUSCHE. For repository; correct.

Senator FORD. Thank you, Mr. Chairman.

Senator DOMENICI. Thank you very much.

Senator Evans.

Senator EVANS. Thank you, Mr. Chairman.

Let me get back to the schedule you have set for yourself. You keep reiterating that you intend to meet the schedule and intend to have a repository ready at the time established by Congress. Would you care to tell me what the comments have been from—what is it—2,500 people who have commented on the mission plan as regards to schedule?

Mr. RUSCHE. I think many of the comments, Senator, were to the point that they thought we were optimistic.

Senator EVANS. Were there any comments that suggested you weren't?

Mr. RUSCHE. I believe there were comments from several groups that said that we were obligated to meet the schedule and we ought to take steps to shorten the activities between now and then to assure that we did.

Senator EVANS. The American Nuclear Forum?

Mr. RUSCHE. All of the comments are in volume 3, and I would direct your attention to those for particular response. I can't recall them explicitly.

Senator EVANS. Could you tell me where, assuming, and I would guess you would agree that with all of the steps required between now and then, there is great likelihood that at least one of those steps will end up taking more time than you expect.

If that's the case, where in the time schedule would you suggest there is a little extra time? Where are things that might be shortened up?

Mr. RUSCHE. Well, I would suggest that—not just suggest—I would note that in being very forthright, that at this point we have not met many of the mandated deadlines. I have talked to you and this committee on several occasions during which I have pointed out that we have elected to take additional time beyond those mandated in the act, to seek and try to have full public involvement.

It is our view that by making those—taking that extra time at the beginning, we may be able to forgo some of the contention and discussion later on. I'm fully aware that each of the parties, States, affected Indian tribes, and others may find that's unaccceptable in their view. And as I said, both in my testimony and we say in the mission plan—and, in fact, have demonstrated in alternatives in the mission plan—many of these steps, if not all of them, could take longer than we have planned for. And if they do, we'll just have to face that when it comes.

But I'm just not ready to make a plan that would be as long as everybody thinks it ought to be, because that's how long it will take for sure.

Senator EVANS. I understand that. I'm just trying to elicit whether there is any kind of extra in there now, or whether you have at each of the many steps along the road, chosen the most optimistic or the shortest time span possible and, even though unwilling to change, have set what will almost certainly be an unreachable goal.

Mr. RUSCHE. Well, if I thought it was unreachable, we would not have proposed it. It is a difficult challenge, I readily admit. But it is the kind of challenge that I think will drive the program to success, if there is to be success in meeting that date. If there is not to be success for good reason, I think we and you will both have the opportunity to make that adjustment if and when it becomes apparent that we can't.

I believe there is yet time. In 10 years—we have not even talked about the construction schedule. Some would argue that the construction schedule is very optimistic. Others would say you can't imagine it taking this long after we have done the work underground that we've done.

So there are things of that sort that are 10 years down the road, that I'm unwilling to make a pessimistic assumption about today, on the grounds that in my industrial experience, that time can and will be used to try to produce that result, rather than to allow it to be self-fulfilling.

Senator EVANS. Would you agree that at least currently, there seems to be continued dissatisfaction expressed by the States who are at risk here?

Mr. RUSCHE. Oh, yes, I think you will hear dissatisfaction by all of them today.

Senator EVANS. Doesn't that suggest that the conclusion of consultation and cooperation agreements ought to be a high priority and a way to at least moderate some of that dissatisfaction and bring people aboard? And if that's true, how are you working to achieve those agreements?

Mr. RUSCHE. Your State was the first such State to recognize the very fact that you have just mentioned. We began negotiations with the State of Washington and have reached the stage of, I would say, maturity in which a couple issues—I believe perhaps only one issue now remains as a hurdle to agreement. Whether the

State is ready to come to such agreement, even if that hurdle is settled, I cannot speak to.

We have spoken to all of the States and they are aware of our interest and willingness to begin negotiations even before the sites are characterized. The law prescribes that C&C agreements should be undertaken after the sites are identified for characterization.

I would further note that two of the Indian tribes have likewise begun such negotiations, and I believe a third is about ready to do so. I understand one of the other States is giving serious thought as to whether we ought to begin.

We certainly would agree that such a negotiating session and an agreement, if we could reach one, would be very productive.

Senator EVANS. I understand that the yet-to-be-resolved difference as far as our own State is concerned is that of liability. Why don't you just agree that the Federal Government, unquestionably and ultimately, is going to have the unlimited liability?

Mr. RUSCHE. Senator, you give me authority that I don't have. I cannot grant that authority on my discretion. I believe before this body, I have testified, others have testified on Price-Anderson applicability. That's a question that Congress is going to have to resolve.

I think the principle is clear in everybody's mind. How you do that and under what terms and conditions, I think is a matter that Congress is going to have to determine.

Senator EVANS. Well, then where do you differ with the State, if they understand that and you understand that?

Mr. RUSCHE. They want unlimited liability and I can't grant it. I don't have the authority in our view.

Senator EVANS. Have you come to this body or others with an explicit plan for suggesting how we grant that?

Mr. RUSCHE. I believe I testified several weeks ago with Senator McClure and Senator Domenici that the plan that was then under discussion seemed to me to be a very appropriate approach. I believe the simple use of words "unlimited liability" requires the participation of Congress. And I believe the approach that was then suggested by the subcommittee had that potential of putting the Congress in a position to make that final determination.

I think that's a correct and valid way to proceed. There may be others, and I'm sure there are going to be more hearings on the subject before it's finalized.

Senator EVANS. In terms of transport, you've mentioned the many elements that are being considered in terms of transport. Have you examined the question of a geographic location for an ultimate repository that would minimize the length of transportation from the various plants to that repository, and is that a factor to be considered in your view?

Mr. RUSCHE. That was not a factor given weight in the first—in the group of sites looked at for the first repository. The act provided that we look at sites that were then under consideration when the act was passed, and those nine sites were largely in the West, Southwest, and Deep South. They were not based, at that time, on optimization from a transportation standpoint.

Our consideration of MRS does involve that in a more specific way.

Senator EVANS. Is there anything to prevent you from looking at that in terms of even the nine sites, or even suggesting that maybe further sites make more sense than minimizing transportation from the various plants to an ultimate repository?

Mr. RUSCHE. Well, one might argue that an array of repositories around the country, regionally located, would have some of that feature, to minimize transportation. And you will recall that under the act, we are changed with beginning work to look at a second repository, and, in fact, yesterday we did publish the final version of the regional characterization report which identified about 235 rock bodies, mostly on the east coast and the upper Midwest. And that would provide some geographic diversity.

But I think adopting transportation optimization or minimization would be a secondary factor. I think the other factors are going to be much more determinative; that is, finding the right geologic, hydrologic physical features for the repository itself.

Now, for a facility like the MRS, transportation plays a very key role, or optimization with respect to transportation plays a very key role because this is a facility built on the surface, not dependent on many of those other problems.

Senator EVANS. At the end of the year—you had indicated earlier today, that by the end of the year you will indicate the five and the three sites, formally, that will go forward. Have you, in your examination of all of the comments—you're only 3 months away from that determination, so you've got to be quite a ways down the road on making that determination.

Have you seen anything yet in all of the comments and the analysis that you've done to indicate that there is a likelihood that any of those that were preliminarily suggested would be changed?

Mr. RUSCHE. I think it would be fair to say that we've not seen anything that would suggest that any of them would be disqualified. I think the input we received from all of the bodies would suggest that there's no basis for disqualification of any of them. I'm sure you're aware that, as a result of some of the conversation I've had with Governor Gardner and others, we have asked the National Academy to look at the methodology. We will not have their final opinion on the validity of that methodology for ranking until about the middle of November.

I think it would be unwise for me to do more than say that until we get something different, I think what's in the draft environmental assessments is our best estimate.

Senator DOMENICI. Senator Evans, would you yield to the Chair for just a moment?

Senator EVANS. Surely.

Senator DOMENICI. I have been asked by the leader to be in his office at 11 for 10 minutes, and I will leave here shortly and Senator Hecht will chair. Senator Hecht, it's my understanding now that the routine has been set where Senator Johnston is next, and then our two guest Senators from Tennessee for 10 minutes each, and then return again for anyone that has additional questions. I hope to be back by 11:15.

I do want to note for the record that we're delighted to have the Nuclear Regulatory Commissioners here. I see them sitting there in the front row. I am kind of disturbed because I note that you have not called a formal meeting, and yet I note that you're talking among yourselves. [Laughter.]

Senator EVANS. Tell them to scatter through the audience.

Senator DOMENICI. Yes, I was going to suggest that perhaps you ought to scatter. But I think perhaps even for the most ardent advocates of sunshine, that perhaps this is sufficient sunshine here where we will immunize you from an violation of the law. And we appreciate your patience. We'll have you up here soon together, and even then it will be our great pleasure to know that even without calling a formal meeting, you can talk together in front of us and you won't be violating anything.

We'll be back very shortly.

Senator EVANS. Mr. Chairman, I just have one followup on the last answer.

Asking the Academy of Sciences to review the methods, I think, is a significant step and a help insofar as we're concerned and accommodates some real concerns. Can you give me an indication of what action you plan to take when the academy's report is submitted to you?

Does DOE plan on abiding by the academy's findings, whatever they may?

Mr. RUSCHE. Yes, sir.

Senator EVANS. Thank you. On that note, that's the shortest answer and the best answer I've heard.

Senator HECHT [presiding]. Senator Johnston.

Senator JOHNSTON. Thank you, Mr. Chairman.

Mr. Rusche, one of the most contentious, one of the most difficult, should I say, issues we had in confecting this law, was the role of the Environmental Policy Act.

What do we require in terms of a NEPA statement? The problem was that there's so many alternatives; there's shooting in outer space; there's deep sea burial, et cetera. There's also the question of the need for this, the alternatives, and particularly the alternative sites.

We were afraid if we put in a NEPA statement instead of an environmental assessment, that it would be either impossible to do, be inordinately expensive, or take too long.

Now, we settled that question by stating specifically in the act that the need was considered satisfied. You don't have to do that. The alternatives were considered satisfied. You don't have to do that. The time schedules were considered satisfied. And further, that on the consideration of other sites, that it was necessary to characterize only three sites.

Now, somehow, someone is making an argument that the need or the possibility of characterizing more than three sites is inherent in this act. I don't know how they could possibly say that, considering the words of the act, particularly subsection—I think it's 114(f)—and certainly considering this long history where our principal concern was how do we limit the cost and the consideration, the time consideration of all these alternatives?

Now, do you not understand it to be crystal clear in this act that you have to characterize only three sites?

Mr. RUSCHE. Senator, I think that I have a clear picture in my own mind, but I believe it's fair to say that the act is not crystal clear on the subject; that there are interpretations——

Senator JOHNSTON. Well, if your mind is clear, that's good enough. Your mind is clear on the question?

Mr. RUSCHE. Mine is clear. I think you'll hear today that there are other views on that subject.

Senator JOHNSTON. What does it cost to characterize a site?

Mr. RUSCHE. Well, based on the three that we have evaluated closely, between $700 and $900 million, in constant dollars.

Senator JOHNSTON. Well, I'm telling you, you're looking at one Senator who is not going to be for throwing around $700 to $900 million for just putting in additional sites to satisfy somebody's curiosity.

And you're talking about a major mining operation when you go to characterize a site, and I think it is unnecessary. I haven't heard of any scientists talk about that, and you're never going to get that money out of the Congress in my view, and you're certainly not going to get it, except over my very strong objections.

Now, Mr. Rusche, earlier on, I stated that this is not a difficult problem scientifically. But in view of the Bhopal accident and that sort of thing, would you tell us what is the nature of these—am I correct when I say that this is not liquid, that this is not gaseous, other than minute quantities of krypton or minute quantities of cesium dust or something, which are not public health problems? Am I correct that you're not dealing with liquids or gases, that the waste is not soluble, that it is not explosive, and that—tell us about the nature of the problem we're dealing with on the MRS.

Mr. RUSCHE. Well, with the MRS and the repository, we are authorized to dispose of high-level waste in a form which will be acceptable to——

Senator JOHNSTON. I'm not talking about the law. Tell us what it is; is it dangerous?

Mr. RUSCHE. High-level wastes that will be disposed of will be primarily from defense programs; that is, waste that has been separated through a reprocessing operation, is now encapsulated in glass, and in a steel container; solid material with little or no gas, and certainly no liquid involved.

Spent fuel will be the primary disposal substance or thing from commercial reactors. These are the same fuel elements that have been operating in the reactors and have been cooling in water-filled cooling basins for some period of time. The fuel itself is a ceramic, encased in zirconium. These fuel elements will then be placed in an additional sealed container, and that sealed container placed in the repository or in the MRS.

Senator JOHNSTON. Now, suppose you had the ceramic encased in zirconium put in another glass container, put in another glass container, sealed up in whatever you want to seal it in. And you've got a big truck out on the road; it has a wreck; and you break open these fuel rods. That can't happen, but let's say it does happen. Then what? Does it explode?

Mr. RUSCHE. No, sir.

Senator JOHNSTON. Does it get in the water supply?

Mr. RUSCHE. There may be some slight contamination for the water supply, but nothing of health significance. But I'd like to back up one step if I may, in that my distinguished colleagues, friends, members of the sunshine community, the Commissioners, will tell you, I believe, that it is their role in this system to assure that we do not get to the place where the fuel elements have the potential for being broken open or exposed.

Senator JOHNSTON. Well, I understand that. But, Mr. Rusche, there is vast ignorance about the nature of nuclear waste. People don't understand. And I must say, you haven't made it terribly clear right now.

Mr. RUSCHE. Well, let me try better.

Senator JOHNSTON. You need a truth squad to go down with real scientists and explain to people what it is; what happens when you have this wreck? And it doesn't explode. People don't understand that it doesn't explode; it cannot explode. They do not understand that there's not this death cloud, as in Bhopal, that comes out and kills people.

They think these rays come out and get you. I mean the fact of the matter is, if you have a wreck and the impossible happens, NRC doesn't do its job and this thing ruptures open in some kind of way, that—I mean it's not good; you're not glad to have that; you don't want to go handle it.

Mr. RUSCHE. Correct.

Senator JOHNSTON. I mean these are rays that, with 3 or 4 inches of lead, you could be up against the worst, biggest collection of wastes in the world and 3 or 4 inches of lead is going to shield you from the gamma rays, aren't they?

Mr. RUSCHE. It may take more than 3 or 4 inches of lead.

Senator JOHNSTON. How many inches?

Mr. RUSCHE. Well, it depends on the amount of material. But the material that comes out of the fuel basins is still highly radioactive and must be——

Senator JOHNSTON. Well, the testimony we've had is 4 inches of lead stops the gamma rays.

Mr. RUSCHE. Well, it will stop gamma rays of certain energies, but the question is not only will it——

Senator JOHNSTON. Well, that's beside the point. In any event——

Mr. RUSCHE. It will take more than 4 inches of lead, though, Senator.

Senator JOHNSTON. How many? Well, 6 inches.

Mr. RUSCHE. I would say that for a single fuel element, you might be able to find an array that with 6 inches of lead would be all right.

Senator JOHNSTON. All right. Well, I'll stand corrected.

The point of the matter is, you can go in there and clean it up without it coming over and poisoning the community, can't you?

Mr. RUSCHE. That is correct. The material, the fuel elements, if they were spread open like you're talking about, are not highly susceptible to migration; that is, to spreading, either by air or water. But to make the kind of absolute statement you're suggesting, I'm not trying to be evasive, I just don't want to mischaracterize the situation. It is important that the casks that they're shipped in be of quality.

Senator JOHNSTON. Of course it is.

Mr. RUSCHE. Senator Ford made the point a while ago; he wants to look at every one of the watermelon seeds and every one of the casks—and he ought to.

Senator JOHNSTON. I don't want you say, you know, I want to be very careful, these things might explode if they were put——

Mr. RUSCHE. No; they won't explode. There is no explosion potential. I'm prepared to make that statement unequivocally.

Senator JOHNSTON. And no possibility of a death cloud coming out?

Mr. RUSCHE. From the standpoint of release of gas; that's correct.

Senator JOHNSTON. Well, from what standpoint can you get a death cloud?

Mr. RUSCHE. You can't get a death cloud, but from the standpoint of producing personal injury, if a person comes in contact with the material, unshielded, it could produce radiation damage.

Senator JOHNSTON. Of course, right, well, what you should do is try to get to the public a real picture of this. I mean you're dealing with a danger, but one in which you had wreck, somebody comes up on the scene, they might get radiated, but it's not going to poison the whole neighborhood, ala TMI or ala Bhopal.

Mr. RUSCHE. If you would allow me to do just that, to show you a picture of a transportation accident, I think that point could be made very well. And we've shown countless thousands of people across the country, in fact, many of the people from Tennessee have had an opportunity to see not only the pictures but the casks and the cask tests to provide that kind of confidence.

I think you and I are talking on slightly different wavelengths. In your mind, I believe, you're talking about failure—an accident in which a cask is turned off a truck.

Senator JOHNSTON. That's right.

Mr. RUSCHE. We're talking about opening of the fuel, fuel elements which are stored inside the casks. The potential is very minor.

Senator JOHNSTON. I'm talking about that, too.

Mr. RUSCHE. The potential is very minor. It's almost infinitesimally small that the casks would open. That is the objective, and that's the objective the Commission seeks to provide confidence about, and I believe does. We can provide pictures, have provided pictures, movies, in fact could even show you a test sometime if somebody would like to look—and the public—and we will try our best to do that.

I apologize for the inability to converge more quickly.

Senator JOHNSTON. Thank you.

Senator HECHT. Senator Sasser.

Senator SASSER. Thank you, Mr. Chairman.

Mr. Rusche, in reviewing your statement here, I note that you indicate that if an MRS is not approved, if there is no temporary retrievable storage site, or if it is significantly delayed, increasing quantities of spent fuel will be stored at the reactor sites. That's contained in your statement.

Mr. RUSCHE. That's correct.

Senator SASSER. So if there is no MRS, we'll simply continue to store the spent fuel at the reactor site. Now, it's my information, and correct me if I'm wrong, that there is ongoing research now on new technology that would further consolidate the spent fuel rods so that there would be more space, and they could be stored at the reactor site in the onsite storage pools.

Is that accurate?

Mr. RUSCHE. We are doing research and development to provide rod compaction or consolidation capability and in fact that's one of the principal activities we would plan to do at the MRS.

Senator SASSER. But my point, Mr. Rusche, is this; that with this ongoing research and the ability to further consolidate or compact the spent rods, then the space considerations will not be as pressing as they had been in the past.

Mr. RUSCHE. To the extent utilities elect to use consolidation and are capable and are allowed by the NRC, that is true.

Senator SASSER. Now, Mr. Rusche, also referring to statement here on page 18, on page 17, you say if the MRS facility is approved by Congress and constructed, it will begin to accept fuel in a timely manner and package and store it within the limited storage capacity approved until a repository become operational.

Now, isn't it implicit in that statement when you say "until a repository becomes operational," that the MRS could become the permanent repository?

Mr. RUSCHE. In my view, it is not, sir. I think the principal guarantee that you and the citizens of Tennessee have that that not be the case is that it is Congress who will authorize how much material might be stored there for whatever period of time.

Senator SASSER. But my view is this; that if we're going to construct the temporary storage site, again accepting the spent fuel or the waste into the temporary storage site, and you say in your statement it will be stored there until a final repository is approved and constructed, if that final repository is not approved or constructed, then that temporary site could become the de facto permanent site.

Mr. RUSCHE. If that were the case, there would clearly be a choice for Congress to make with respect to the storage of the limited quantity that will be contained in our proposal; namely, 15,000 tons, which is about the output for about 5 years of operation of reactors, or perhaps a little more than that.

If Congress elected at some point in the process at any time to decline to have facilities at any place, that material would be the ward of the Federal Government and Congress would have to make the decision as to whether to look for two, three, other repositories or other MRS and make some other arrangement to store it.

Senator SASSER. Well, my problem, Mr. Rusche, is I see no great enthusiasm among the Senators here today whose States have been selected as the permanent repository site for accepting that. I don't wish to speak for them, but I don't notice them today rushing out and volunteering to be the site of the permanent repository.

And given that state of events, I have some fear that in the final analysis there may be some difficulty and extensive delay in selecting a permanent repository.

Now, it's clear from your testimony that we're running into some very complex questions in just trying to establish a procedure for siting a permanent nuclear repository. And it seems to me that that would make it more likely that the interim site that's being proposed by the Department of Energy in Tennessee or a temporary site, could become the de facto permanent site.

Would you agree with that?

Mr. RUSCHE. I would agree with the fact that there is now, and I predict will continue to be, contention amongst the several parties, because as you have so clearly indicated, there do not appear to be host States who are standing in line to be the final beneficiary of this program.

I do not share the view that we will not be able to get to that place in the time scale that we've got, and therefore, I don't share the view that the MRS is likely to be a permanent facility.

Senator SASSER. I am concerned, Mr. Rusche, that in the selection of a temporary storage site, so-called MRS, that all three sites proposed were in one State, in the State of Tennessee. And yet, when we look at the list of those that were under consideration for permanent sites, we find there are a number of sites in four or five or six or seven different States, and when it's distilled down to a selection, three sites in three different States are proposed according to your statement, for the permanent repository.

And my question is this: Why was just the State of Tennessee, three sites in the State of Tennessee selected for the MRS for the temporary site? Why weren't there two other States in addition to Tennessee? For example, if Mississippi or Texas can be considered for the permanent site, why couldn't they also be considered for the temporary site?

Mr. RUSCHE. Let me answer your first question first. That is, why were they selected? Criteria for selection of the three sites for consideration were that they be federally owned sites, that they be at a location which allowed us to take maximum advantage of their geographic position from the standpoint of optimizing transportation, and that they either be docketed by the NRC or have had previous licensing experience, so we would have high confidence that they would be licensible.

All three of the sites in Tennessee share that common set of properties. We identified eight other sites, if you recall, in the draft siting report that we published in May and which will be a part of our final proposal. Those sites had some of these properties. It did not appear to us that any had these properties to the degree that these sites did, and as Senator Gore commented in his earlier statement, the fact that they were in a single State is an important factor.

It allows us to concentrate our attention, to focus our efforts, do the very best job we can technically.

Senator SASSER. Well, as I stated earlier, Mr. Rusche, and I think it's become clear from the statements of my colleague, Senator Gore, that the anticipation of the temporary storage site perhaps being placed in Tennessee has aroused a great deal of apprehension on the part of the people of my State.

Now, is the Department of Energy sensitive to this fact, and what proposals does DOE have for allaying the people's fears about the temporary storage site?

Mr. RUSCHE. I hope that it's evident that we are sensitive to the fact that there is apprehension and concern on the part of people in Tennessee. We have had from the very beginning of this discussion, a very effective interaction with the State government. I believe Governor Alexander has a Safe Growth Council, chaired by Mr. Jim Word, who I believe is scheduled to be a witness later today before this panel.

It is my understanding that his panel has been charged by the Governor in overseeing what we are doing and making a judgment on its own independent accord as to whether or not the health and safety and environmental issues have been properly and adequately addressed.

That group has had a number of public meetings, operating on behalf of the State of Tennessee, which we have been a party to. We have been invited to—I started to say "countless," but it's probably a few less than countless—but I expect at least 25 or 30 such public meetings across the State, some of which we have sought with public officials and local communities, State government officials; others of which have been scheduled or planned by those who both favor and those who oppose the idea. And we have made ourselves available.

I have staff members who virtually are living in the State of Tennessee now, to make themselves available for that very purpose. I have my associate director, who now I think averages 2 or 3 days a week in the State of Tennessee to be available to answer questions and present information on the most reliable and effective basis that we can.

So I believe we are sensitive.

Senator SASSER. I don't want to abuse the courtesy of the committee, and I have used my 10 minutes, Mr. Chairman. Thank you.

Senator HECHT. Well, we'll have a second round.

Senator Gore.

Senator GORE. Thank you very much, Mr. Chairman.

I want to begin by saying to my colleagues here, many of whom have had the same experience, that I have been able to work with Mr. Rusche in the past and I know of no finer public servant that I have ever met, a very candid, forthright, honest, and hardworking gentleman. And I feel privileged to be able to work with him.

Some days I wish we could work together on something else, but I have tremendous respect for him.

I've got about five subjects that I want to cover just as quick as I can. The first one goes back to an interchange that Senator Johnston and I had—and I hope you will forgive me for pursuing this a little bit, because it's not to make a point so much, as to establish where this thing stands.

Those who are opposed to this MRS want to know what the procedural posture of the issue is, and it's my understanding that the concept still has to be formally approved; that is, authorized. And let me just make my case here very briefly, and then I'll ask you if you agree with it, Mr. Rusche.

First of all, in the law, when this came up in the House, I was the author of an amendment to delete the requirement of an MRS. And what was substituted, in my understanding, was a study. In section 141 of Public Law 97-425, subsection (a)(2), it says:

> The executive branch and the Congress should proceed as expeditiously as possible to consider fully a proposal for construction of one or more MRS facilities.

Then, two pages later, in the same statute, subsection (c)(2), it says—excuse me—page 2243:

> If the Congress, by law, after review of the proposal submitted by the Secretary under subsection (b) specifically authorizes construction of a Monitored Retrievable Storage facility, then the requirements of the NEP shall apply.

Then the mission statement from the mission plan of DOE, dated June of this year, says DOE's interpretation of the law is that it has the responsibility to, No. 1, site a permanent repository; No. 2, submit a proposal to Congress to develop one or more facilities for monitored retrievable storage.

In your statement, Mr. Rusche, you say and I quote:

> In particular, the act requires DOE to complete a detailed study of the need for and feasibility of monitored retrievable storage and submit a proposal to Congress for MRS.

And then, in the committee briefing memo, it says "DOE will submit a formal MRS proposal in early 1986 to obtain authorization to proceed with the MRS activities."

Now, I just want to make certain that—and the point of all this is that my understanding of the way the act finally ended up as it came out of the conference committee was that the Congress as a whole did not formally put its imprimatur on the concept of an MRS and said we mandate an MRS. Instead, there were reservations expressed, because at the time—I know from the debate that took place over on the House side—there were real reservations about whether the idea made sense.

Now, my understanding, therefore, is that you've got to come back and sell us on the concept and get authorization to go ahead with your idea. Would you agree with that?

Mr. RUSCHE. In part. If I may elaborate as briefly as I can, I believe everything you've said is right out of the act, and I read it in my sleep, it seems like. You did overlook, though, a pertinent set of requirements, sir.

Under (b)(2) is defined the requirements or the content of the proposal. It is those requirements, that is, those content requirements that lead us to the course that we're on. I think I would state unequivocally, there is no question in my mind but that an MRS is not now a part of the authorized system. And I have said that; it's absolutely clear and unequivocal in our strategy chapter.

Senator GORE. All right. I just don't want us to slide past that point.

Mr. RUSCHE. But to make the point clearly, the idea of approval or authorization that you allude to is to be accomplished by a proposal, of which (b)(2) describes four sections of content, one of which is site specific, detailed designs, ready for approach to the NEPA process.

Senator GORE. Now, you're speaking to the point of whether the authorization of the concept has to take place before you specify the sites. And indeed, the proposal is supposed to outline the specific sites that you recommend.

Mr. RUSCHE. Yes, sir.

Senator GORE. I don't disagree with——

Mr. RUSCHE. Earlier on, I thought there had been an allusion to that, and I wanted to be sure that we got that clear.

Senator JOHNSTON. We're all three in agreement.

Senator GORE. OK. All right. Great.

Now, a second point. I expressed the reservation about the location of an MRS prior to the location of a permanent repository, removing the political pressure for a permanent repository.

I want to stress to the committee that this is not a rhetorical concern or one that is manufactured out of thin air. This, in fact, was cited as the major concern with an MRS by the Office of Technology Assessment. They produced a study in August of this—August 30. It's just 12 days old. And I want to read to the committee just briefly from it.

It talks about—wait 1 second here.

It describes "the concern that the availability of Federal storage capacity would lead to deferral of the politically and financially costly steps involved in siting a geologic repository. OTA noted that this is the principal programmatic risk in attempting to site and license a large Federal storage facility before a permanent repository site is selected and licensed."

It goes on to identify this as "the major disadvantage" of the MRS proposal. And it says a major concern about the MRS is that it could delay the repository program indefinitely—indefinitely.

OTA's March report discussed two bases for this concern and it goes on to outline them. And then it concludes by saying, "The history of the waste management program strongly suggests that the credibility of any interim storage measures will be suspect unless there is confidence that a permanent repository will be available within a reasonable period."

Now, in your statement here, Mr. Rusche, maybe this was in the appendix to your statement. I ripped it out of your statement. It's page 18. It says, "What happens if either no site is found acceptable, or if the host State or States disapprove the selection and that disapproval is not overridden? In this event, we have two main contingency plans." No. 1, MRS. "If an MRS has been approved and constructed, it can accept spent fuel on or ahead of schedule."

Mr. RUSCHE. Please continue that statement, though, Senator.

Senator GORE. "Up until its capacity. Packaging and storing it within its limited storage capacity until the second repository is approved and operational."

Mr. RUSCHE. Yes.

Senator GORE. If you cannot get approval of the first permanent repository, what effect does that have on your confidence that you will be able to get a second permanent repository approved?

Mr. RUSCHE. Well, some would say that we might have learned a whole lot and that we'd be in a much better position to get a second site considered. Others might take the view that first experience is bound to be repeated. And all I can tell you is that given the circumstances and the data, the best guarantee that you've got is you, yourself, and Members of Congress.

Senator GORE. Now, wait just a minute, but you don't—I don't fault you for this, but you don't outline a contingency plan for both the first and the second final sites being disapproved, but in that event, your first main contingency plan would be to put it at MRS and keep it there, wouldn't it?

Mr. RUSCHE. Senator, I don't want to argue, but I think we have tried to display that on page 20 in the mission plan is a contingency diagram.

Senator GORE. Well, if none of them are approved.

Mr. RUSCHE. If nothing is approved, we're going to continue to leave the fuel in basins.

Senator GORE. That's correct. But your main contingency is to go—if the first one is disapproved, then you fill up MRS——

Mr. RUSCHE. 15,000 tons.

Senator GORE. And leave it there. And then if the second one is disapproved, you've still got it all at the MRS——

Mr. RUSCHE. Not all. You've got 15,000 tons.

Senator GORE. You've still got all which went to MRS——

Mr. RUSCHE. Which is about 10 percent of the total.

Senator GORE. And then you start leaving it at the reactor sites. Well——

Mr. RUSCHE. But, Senator, please, if I may, I think it's clear in the act that Congress recognized the very contentious nature of this matter. It directs the President, if the first site is not found acceptable to bring back another recommendation every year and continue bringing back such recommendations, and the Congress will clearly have to be an active party in expressing the will of the country as to whether what we can see today is what ought to be played out.

And it can be changed at any step.

Senator GORE. I understand. I must conclude this round of questions. I just want to say briefly that the central point is, the approval of an MRS prior to the approval of a final repository could in fact remove the political pressure to complete the selection process for a final repository. The OTA cites it as the major concern, and in your statement, you tend to give a little credence to the idea that if the final repository is not approved, well, we can just keep it at MRS.

Mr. RUSCHE. I think that's an interpretation that I believe is a little——

Senator GORE. Well, OK. We'll come back to it. I only got to two of my five, and I will come back if we have another round. I appreciate it.

Senator HECHT. We will have another round, Senator.

Senator EVANS. Mr. Chairman, at this point, just for clarification, I don't know if Mr. Rusche knows or not, but it's my understanding that the OTA document that the Senator from Tennessee refers to is not the report of the OTA but at this point——

Mr. RUSCHE. Report of the staff.

Senator EVANS. It's a staff draft that's written by one member of the staff and has not been adopted as the document——

Mr. RUSCHE. I believe that's correct.

Senator GORE. Let me just say it's dated August 30, 1985. I do not think it has yet been approved by the OTA, and I should have noted that fact in quoting from it.

Mr. RUSCHE. And you might want to note that the bulk of the document suggests that there's great value in the MRS for the purposes for which we have proposed.

Senator HECHT. Mr. Rusche?

Mr. RUSCHE. Yes, sir.

Senator HECHT. I have some other questions, and some of this has been alluded to, but just answer me as simply as you can, because for the record I want to make sure that these questions have been asked.

What does site characterization consist of?

Mr. RUSCHE. Site characterization is geologic and hydrologic exploration at depth, that is, 2,000, 4,000 feet deep, at the place where we would propose to put the waste material, as well as accompanying design efforts on the surface and for the waste package.

Senator HECHT. How much will it cost?

Mr. RUSCHE. It varies from about $700 million to about $900 million, depending on the medium we're looking at, whether it's salt or one of the rocks.

Senator HECHT. And when do you plan to pick the site of the first repository?

Mr. RUSCHE. About 1990 to 1991.

Senator HECHT. How many sites does the act require DOE to nominate and recommend for site characterization?

Mr. RUSCHE. The act requires us to nominate five sites as suitable for characterization and to propose to the President that three of these be selected for characterization.

Senator HECHT. If the act required that three sites be recommended for site characterization, does it require that all three survive characterization?

Mr. RUSCHE. It is our view that it does not, and we believe that's consistent with NEPA, NEPA case law, and the CEQ provisions.

Senator HECHT. In your view, does the act clearly define or suppose what is completion of site characterization; that is, if during characterization, a site is found to be unsuitable or disqualified and site characterization is terminated, does this constitute characterization?

Mr. RUSCHE. The act does not clearly specify what constitutes characterization. My opinion would be that it depends on the point at which such finding occurred as to whether characterization would have been assumed valid.

But, by and large, the answer to the question is yes.

Senator HECHT. Does DOE feel it is fully complying with the act?

Mr. RUSCHE. Yes, sir. Otherwise, I'd be expecting to go to jail.

Senator HECHT. In fact, what constitutes compliance?

Mr. RUSCHE. Compliance, where it's clear in the act, is following the act. Where it is not clear or where there is discretion, it's the exercise of discretion.

Senator HECHT. It has been brought out that the States under the law can veto this, but Congress can override the States.

In your opinion, if a State would veto this and they come back to Congress, would they be better armed to be dealing in facts or in hysteria? In other words, if a State today said we don't want it, we don't want anything nuclear, would they have any credibility with Congress, or would they be better off to wait and take a wait-and-see attitude until all of the facts are in, and then come forth with facts and speak to Congress on that?

Mr. **Rusche**. Senator, I think facts would be a much more powerful tool, whether they were speaking to Congress or whomever they were speaking to.

Senator **Hecht**. You mean, in other words, without facts, a State would be powerless to act?

Mr. **Rusche**. I could not characterize it quite that way, but I think it would certainly bolster their case if there were facts along with whatever other attitudes or views care to be expressed.

Senator **Hecht**. Thank you. Thank you for the fast answering of all the questions.

Mr. Ford.

Senator **Ford**. I have two quick questions for Mr. Rusche. Could not the defense waste be retained onsite now, under the circumstances, rather than be transported to the MRS?

Mr. **Rusche**. The defense waste is now on several DOE sites, and there are provisions for its storage for some period of time. The sequence in which we would take it from that site has not yet been determined until we get these questions resolved. Whether it would go to the MRS is a matter we have not resolved as well.

It may be shipped directly from the defense sites to the repository.

Senator **Ford**. If that timeframe works out. What I'm trying to do here is to limit in the minds of people out there the transportation of the waste, and you said earlier that the defense waste would also be taken care of. But it doesn't necessarily mean that it would have to go to the MRS.

Mr. **Rusche**. That's correct. But in terms of optimizing transportation or minimizing the total number of train miles or cask miles, it might well turn out to be better to go through the MRS, and those are part of the studies that we have yet to do.

Senator **Ford**. What if it has to come from Baltimore to Tennessee?

Mr. **Rusche**. We don't have any defense waste left——

Senator **Ford**. Well, I know. But what if he has to go from north to south, then back out west? Would it be better to just go north, right across the country? You'd be making two stops.

Mr. **Rusche**. In some cases yes, in some cases—if it was in Nevada, for example, it might be different than if it were in Washington State.

Senator **Ford**. Where are the most military waste deposits?

Mr. **Rusche**. Washington State, South Carolina, Nevada—excuse me, there's very little in Nevada—Idaho is the third most important.

Senator **Ford**. So South Carolina; is that Aberdeen?

Mr. **Rusche**. That's Aiken.

Senator **Ford**. Aiken; OK; all right; South Carolina, Idaho, and Washington.

Mr. **Rusche**. And Washington State.

Senator **Ford**. Doesn't any time lag suggest a squeeze on NRC?

Mr. RUSCHE. I suspect that they would say, yes.

Senator FORD. Well, I'm asking you. We'll get to them when they get here.

Mr. RUSCHE. I don't think so, because I think we ought to work together and——

Senator FORD. So a time lag or delay or a slippage wouldn't put a slippage on NRC?

Mr. RUSCHE. In my opinion, if we're doing our work together right, we ought to minimize that effect on them and us.

Senator FORD. Thank you.

Mr. RUSCHE. Could I make one other comment?

Senator FORD. Sure.

Mr. RUSCHE. I extracted from my notes a pertinent piece of information to one of your earlier questions. And I think we ought to talk at another time, perhaps to a greater degree, but it's entirely possible—in fact, very likely—that there may be fewer shipments going through Kentucky if we have an MRS than if we don't have an MRS. You might want to talk with me about that. [Laughter.]

Senator FORD. Mr. Chairman, I move that this witness be dismissed. [Laughter.]

Mr. RUSCHE. Could we have a private meeting maybe sometime?

Senator HECHT. There is no second.

Senator FORD. You just absolutely have gotten my attention. It didn't take a 2 by 4 to hit me between the eyes. And I'll be delighted at your earliest convenience.

Mr. RUSCHE. I will respond to your call, Senator.

Senator FORD. And I'll withhold any further questions, Mr. Chairman.

Senator HECHT. Senator Johnston.

Senator JOHNSTON. Yes; just a couple of questions, Mr. Rusche. First of all, could you tell us why the MRS is a useful thing in the handling of nuclear waste in terms of allowing the dissipation of the waste heat radioactivity levels?

Mr. RUSCHE. It's useful in a number of respects. One is that it provides lag storage; that is, a period for the material to reside at a site before it moves to the repository, but for a short period of time which will give further decay and for it to cool further.

It provides an opportunity for packaging the material in the most effective shipping form that we can which will allow us to minimize transportation impact. It gives us confidence that we can operate the system reliably; that is, that the failure of one component of the system, such as the front gate at the repository, does not instantly——

Senator JOHNSTON. You mean the permanent repository.

Mr. RUSCHE. The permanent repository does not instantly require us to stop receiving fuel from the utilities who are continuing to generate the waste.

I think the opportunity to carry out these consolidation operations and management operations in a large central facility is a much preferred choice over having 10 or 20 or 50 utilities attempting to do the same kind of operations in their own basins.

Senator JOHNSTON. Right; I think that argument is obvious; that is, that it avoids the building of more pools and the dry casks, and so forth, at the reactor site. But in addition to that, if you allow waste to stay at the MRS for, say, 10 years before it moves to the permanent facility, it is much, much cooler by a huge factor, is it not?

Mr. Rusche. That's true if the waste were fresh coming from the reactor. But we have so much waste now accumulated for the first 10 or 15 years, we're going to be shipping waste that is already so old that it has largely achieved much of its decay. So it does not produce a major increment in the early part of the program.

When we get to the point in the program——

Senator Johnston. Well, we're dealing with a long-term program.

Mr. Rusche. When we look at the long-term program, it does provide that buffering.

Senator Johnston. And it makes it much more manageable in terms of the final resting place.

Mr. Rusche. We believe so.

Senator Johnston. All right; now, the size of the MRS you mentioned earlier is only sufficient to accommodate 4 or 5 years output from the U.S. nuclear powerplants?

Mr. Rusche. Correct.

Senator Johnston. So it could not conceivably be a permanent solution.

Mr. Rusche. That is my view.

Senator Johnston. It might be a solution for 4 to 5 years, but after that you're full and your facility will not accommodate more than that.

Mr. Rusche. That's correct.

Senator Johnston. Now, how many jobs would this produce?

Mr. Rusche. It turns out that during the period of construction, we would expect to have 400 to 700 workers on the average, with a peak of about 1,300; during operation, about 600 workers for a permanent operating staff.

Senator Johnston. Now, Mr. Rusche, I can tell you how Tennessee is going to look at this, as any State would; it's going to look at the impacts, pro and con. First of all, you've got to in from a factual standpoint and show them what are the risks, and I think there is, as I say, more hysteria than there are facts on that. And you've got a really big job to do in that respect.

Beyond that, you've got to deal with the question of what is the business impact, because I know the leaders in Tennessee will want to know whether—does the hysterical factor, will that keep business away; or will it be a positive good? You also, it seems to me, that there are many things that the Government is going to have to do in connection with this, such as I would imagine you're going to have to have a research facility on waste.

If you're going to have one, you ought to state what it is, what the size of it is, get your plans going so they'll know what that is. I think there's a huge job that both you and the industry has to do about talking about this whole issue of nuclear waste.

After all, you've collected billions of dollars under the act. The law requires you to accept those wastes in 1998 and that date will never be met, in my view, unless you get this MRS going. I hope we won't have a delay in any of the programs. But I think it would be a very embarrassing thing for us all if we find that we've collected billions of dollars and have nothing to show for it in terms of the ability to accept waste.

I hope we don't reach the point where we either create real hazards at the sites or run out of space at the sites so that we have to begin to close down nuclear power plants because we don't have any place to put the waste.

Is that a possibility, by the way?

Mr. RUSCHE. That is indeed. The act provides for very limited emergency storage capacity, about 1,900 tons at a Federal facility if an emergency were to arise. But if we do not take other steps, then it will be a choice of the Commission as to how much waste can be stored in each reactor for how long, and that's obviously a finite amount, and not for too long in terms of the kinds of times we're talking about.

So reactors will either run out of storage space and have to shut down or run into conditions which will require other storage to be constructed or somehow managed under the licensing of the Commission.

Senator JOHNSTON. Thank you.

Mr. RUSCHE. Could I offer one comment in response to an earlier part of your statement, Senator?

It seems to me that if I might be a little bit presumptuous, that the first indication the American public is going to have as to whether the Congress was serious about dealing with nuclear waste, that is, whether the act was just an accident or whether it was serious, will come next year when the Congress has to consider MRS.

I believe if the Congress looks at that issue, the public is going to look at the congressional intent. I believe that conviction on the part of Congress that we ought to proceed with this integrated program will be the most confidence-building statement that could occur; that the public will recognize that it is the national intent that we proceed, not only with the MRS but with the repository.

And in my opinion, that makes next year's consideration a very important element in the long-term future of this program, whether or not you favor MRS.

Senator HECHT. Mr. Rusche, before I go back to the second question of Senator Gore, I think you ought to clarify for the record military and civilian waste; together, or how do you plan on that? This has not been brought out.

Mr. RUSCHE. We plan to dispose of both military high-level waste and civilian spent fuel in the same repository, a decision made by the President, as provided by the act.

Senator HECHT. I just wanted that for the record. Thank you.

Do you want to speak, Senator, or do you want Senator Gore?

Senator DOMENICI [presiding]. Senator Gore.

Senator GORE. I'll be very brief on my second round, and again I am so grateful to the committee for letting me and Senator Sasser participate.

Chairman Domenici had stated earlier his view of the law which I share, that if the State of Tennessee formally vetoes this proposal, both the House and the Senate have to affirmatively override that veto.

You agree with that.

Mr. RUSCHE. Indeed, sir; that would be the step required for authorization to proceed.

Senator GORE. Fine. All right. I'm glad to pin that down because the language is very clear with respect to the permanent repository, and some have argued that it is less clear with respect to an MRS. But if we're all in agreement, then that nails it down.

Mr. RUSCHE. The procedure is less clear. I mean it is very much more proceduralized with the repository, but the effect is identical.

Senator GORE. Good. Good. All right.

Now, you indicated earlier that—and you've been very candid on this point—that one of the reasons why you placed all three of the sites in Tennessee was that you only wanted to deal with one set of State officials; correct?

Mr. RUSCHE. I have not said that, sir. I said that all three sites were in the State and have allowed us to focus in the same State and allowed us to focus our attention. That does provide the benefit, if you want to call it that, of dealing with one set of State officials.

If we had found sites that were more attractive in other States, we would not have chosen Tennessee with three sites just for that purpose. It's a benefit rather than a reason, I would be inclined to characterize it.

Senator GORE. That's subject to different interpretations. Let me give you my interpretation, OK?

Mr. RUSCHE. Then we'll have two.

Senator GORE. My interpretation is that you felt like you learned a political lesson from the process you went through in designating potential sites for the permanent repostitory and you didn't enjoy the political furor that was created in nine States and then three States. And when you then got around to printing your list of potential MRS sites, somebody over at DOE said:

> I got a great idea. You know, there's no real reason to spread them around. Why not just concentrate them in one State, and then we'll just have to deal with the political uproar in a single State.

Now, something approaching that conversation took place, didn't it?

Mr. RUSCHE. Absolutely not. Absolutely not.

Senator GORE. Not within your earshot anyway.

Mr. RUSCHE. Well, mine may be the only ear that counts in this case. But I can tell you, as a matter of fact, and equally as candidly as before, that if you asked me the question which I really thought you were going to ask me, if you had three sites equally qualified, located in three different States, and three sites equally qualified in one State, which course would you take? And the answer is, we'd take the three sites in one State because it allows us to focus our attention. Issues are far more definable, both political and technical.

I'm not trying to be evasive. I think we need to be very clear.

Senator GORE. No, I understand. I think it's clear, and I think that there's a lot more candor than we usually get on a sensitive subject like that, and I appreciate it. I appreciate the candor; I'm not sure I appreciate the result.

Now, in presenting your proposal, you and I have been over this next subject personally, so let's try to do it quickly here. In presenting your recommendation, you published a map and that map, by a striking coincidence, located Oak Ridge at the precise geographic center of an area described as the ideal area to maximize transportation efficiency; correct?

Mr. RUSCHE. I do not believe it was the precise geometric center.

Senator GORE. Oh, yes it was.

Mr. RUSCHE. It was the weighted average. Oh, yes, I've got it.

Senator GORE. Can you show it to me?

Mr. RUSCHE. I don't have it here.

Senator GORE. Oh, I thought you had it right there. Is it in your mission plan?

Mr. RUSCHE. I don't believe it is.

Senator GORE. Well, I will submit it for the record. I mean we went over this in my office

Mr. RUSCHE. Oh, we sure have.

Senator GORE. And it's—I mean you could take a——

Mr. RUSCHE. It looks like the center. I'll grant you, it looks like the center.

Senator GORE. It sure does.

Mr. RUSCHE. But it is not the precise——

Senator GORE. You could take the sharp part of a compass and put it right on Oak Ridge and draw that circle. And I thought that was a striking coincidence.

Now, let me just take you through the procedure that you used on this.

You identified nine potential sites for the permanent repository in February 1983; correct?

Mr. RUSCHE. These are sites that had been under study for 10 years; yes.

Senator GORE. You published the list in February 1983.

Mr. RUSCHE. Correct.

Senator GORE. All right. Then you went through a two-step process. You identified the location of the reactors generating waste and you identified the volume-weighted geographic center of the waste generators; correct?

Mr. RUSCHE. These are not related to the repository.

Senator GORE. No. That's right. Step one is not related to the final repository, OK.

Mr. RUSCHE. Right.

Senator GORE. Now, where is the volume-weighted center if you look at where the waste is generated?

Mr. RUSCHE. I believe the volume-weighted center, as a point, is probably in northern Ohio.

Senator GORE. Northern Ohio. OK. Then you adjusted that geographic point in order to take it closer to the potential final repository sites; correct?

Mr. RUSCHE. We made a parametric study.

Senator GORE. You made a parametric study which looked at all nine——

Mr. RUSCHE. All of the sites.

Senator GORE. All nine of the sites, and that pulled the geographic center——

Mr. RUSCHE. South.

Senator GORE [continuing]. South, right to Oak Ridge.

Mr. RUSCHE. Just right to Oak Ridge. [Laughter.]

Senator GORE. OK. Now, prior to the time that you published your MRS proposal, you narrowed the list of final repositories from nine to three; correct?

Mr. RUSCHE. No, sir, we indicated a tentative preference which is subject to evaluation and will not be made final until the end of this year.

Senator GORE. Well, Yucca Mountain and Hanford and—I mean those three sites somehow got the impression that they were on the—that they made the final cut.

Mr. RUSCHE. They are the preference sites, based on the draft information.

Senator GORE. OK.

Mr. RUSCHE. But that's not a final choice.

Senator GORE. All right. But when you made that change, however you characterize it, from nine to three, how did that adjust the geographic center of the ideal area for the MRS?

Mr. RUSCHE. I don't honestly know.

Senator GORE. Well, you don't know because you didn't change it.

Mr. RUSCHE. No; we had already published the report

Senator GORE. No.

Mr. RUSCHE. In draft form.

Senator GORE. No. No, no. Well, the——

Mr. RUSCHE. We are going to publish the report in final form and you will see all of these parameters displayed in that report.

Senator GORE. Well, after our extensive discussions about it, I hope that that will take place.

Mr. RUSCHE. We learn from a lot of things.

Senator GORE. But for the record, Oak Ridge was said to be the ideal geographic location to maximize transportation efficiency, but if you get the impression, as I do, that the list of final repositories has been narrowed down to three instead of nine, in fact it is not the ideal place to maximize transportation efficiency; correct?

Mr. RUSCHE. Senator, I have to make a comment because you're using words that are just not quite correct. Oak Ridge is not the ideal site. What we did in that parametric study, and which we discussed with you, was that we defined a circle within which all of the sites within that circle had a high probability of producing 90 percent of the benefit as we were defining it.

Oak Ridge was in that circle. It was not the single most point. I think you are attaching far too much significance to that point and are over-drawing that issue.

Senator GORE. Let me agree in part with you. And I want the committee to be clear on this point. They drew a circle and they stated clearly that any point within the circle would achieve transportation efficiency.

Mr. RUSCHE. That is correct.

Senator GORE. OK. And even if you change the center of that circle so that it's not Oak Ridge, but some other place, then Oak Ridge and the other two sites in Tennessee would still be within the new circle.

Mr. RUSCHE. That is correct.

Senator GORE. But as a matter of strengthening the logical argument for your selection, it was very impressive—if coincidental—that Oak Ridge happened to be the exact center of the ideal area and it's a limited point; I grant you that. But insofar as it really isn't the exact center of the ideal area——

Mr. RUSCHE. No, it isn't. And it is not the exact center of the region either.

Senator GORE. To that extent, the public presentation gave an unintentionally misleading impresssion, and to that extent the logic upon which Oak Ridge was selected as number one is slightly weakened.

Mr. RUSCHE. If I might say, I believe it was not our presentation, but the comments upon our presentation that created that public confusion.

Senator GORE. Well, it was the map that drew the circle with the compass with Oak Ridge right at the center. I mean, you know, that made it seem like, well, gee, it's just logical.

Mr. RUSCHE. Sometimes, though, Senator, coincidence and wisdom come together. [Laughter.]

Senator GORE. In this case—well, coincidence and wisdom, minus accuracy, can create problems.

Senator JOHNSTON. What would you have said if it had been out on the periphery of the circle?

Senator GORE. Well, what do you mean? In the initial presentation? It would depend on where the center was. In fact, the final repository site on the list of nine which pulled it south to Oak Ridge was in Louisiana. And since Louisiana was not fortunate enough to make the final cut for the long-term repository, I just think that we should also get that kind of adjustment.

Mr. RUSCHE. Could we have one final agreement, sir? I believe you said, and I think we both agree, that it is, based on our subsequent discussions, you do recognize that the circle that you're describing is the locus of points that provide that common benefit, even though it has that unfortunate impression that has the apparent effect in your mind of weakening the argument. The analytical accuracy that I have described is descriptive of that circle.

Senator GORE. Yeah. Well, given the way the rest of it was handled, I'm still looking at those parameters.

Mr. RUSCHE. Well, if you have some analysis that will help us, we're getting ready to go to draft, so we need it.

Senator GORE. Well, I tried to help you on the analysis of that other.

I appreciate it. Thank you, Mr. Chairman.

Senator DOMENICI. Senator, I was going to tell you, I was privy to the internal documents and compasses and the maps that General Motors used. [Laughter.]

Senator GORE. Now, there, that is the geographic center, the ideal area.

Senator DOMENICI. Now you've got it. They found out a lot of information after they put it at the center, and it really pulled it sort of toward Ohio. But you're very delighted that they chose—that it remained the center. We should have tied those two together, that's what we really should have done.

Senator GORE. Yeah, that's right.

Senator DOMENICI. We should have tied Oak Ridge, gotten hold of General Motors.

Mr. RUSCHE. Well, as a matter of fact, we did have some casual inquiry to suggest that MRS would be an asset in the location of the Saturn plant.

Senator GORE. I imagine it was real casual.

Mr. RUSCHE. At least it indicates that both locating procedures recognize that Tennessee is a very important State, sitting at the locus of transportation effectiveness. Is that not right, Senator?

Senator GORE. We're real proud of all our assets. [Laughter.]

Senator DOMENICI. I'll tell you, I was going to cut you off about 5 minutes ago, but you're coming around. Would you like to go on a little more?

Senator GORE. No, no, no.

Senator DOMENICI. Well, I'll tell you, you've taken up far more time than you deserve. [Laughter.]

Senator GORE. All right.

Senator DOMENICI. Now, I wanted to ask one question—thank you very much, Senator. I had about 40 questions, but I'm not going to ask them. If you'll answer them in the next 10 or 15 days, I'd appreciate it. I'll give them to you. And I haven't had a chance to see how many of them have already been answered, so don't think that because I asked you a question that's already been asked, that you ought to answer it again. If you've already answered it, don't answer it. Just note that so we won't have to put you to any extra trouble.

I'm interested in one aspect of this whole process that I'd just like to share a little bit with you here and in public for those who are going to testify later and have a genuine interest.

I take a little bit of pride in the consultation and cooperation aspects of this bill because they had their genesis in the generic language creating the Waste Isolation Pilot Project in my State. It's very difficult for local government at first blush to understand what a consultation and cooperation agreement is.

Frankly, in the WIPP [waste isolation pilot project], low-level transuranic military waste, it was generated as a substitute for the hue and cry for an absolute State veto. Obviously, in this episode that you're working in, this whole process, we have both; because in a sense, they can say no and Congress must in both Houses override, but the notion of a consultation and cooperation agreement was preserved.

I hope that those States that are involved in either the permanent or the retrievable will take a real look at how that works. And I hope none of them, particularly the Governors of the respective States, think that by excecuting up front a consultation and cooperation agreement, that they have in any way prejudiced any of their rights or any of their scientific input. Quite to the contrary. If they will look at how it's developed, joint groups of scientists and health people participate with lawyers in drawing the agreement which stops the process at various times while the scientists end up agreeing. And that's where the consultation and agreement occurs.

And it provides for a number of good arbitrating in a neutral environment, not just the old Feds doing it. They have their best, those who are perhaps for local participation presumed to be more interested in the State than you are. I don't believe that for a minute. But that's part of this process in this country.

And I really think it is a very exciting tool to establish all of the various scientific benchmarks and then evaluate them very carefully in a neutral environment and come to some conclusions and make people redo things by virtue of it, and I hope they'll look at it.

As I understand it, they can enter into that up front and have a very long period of time, at very preliminary and then further on down events, have total independent input from their people, so as to speak, "their" being those who are perceived to have a more genuine interest in the State, perhaps even in State's politicians. That's pretty important, too, in this process.

So have I—is there any growing enthusiasm on the part of the participant entities here of looking at this as an instrument of participation, or are they—do they appear to be shying away from it? Would you give us just your evaluation?

Mr. RUSCHE. Senator, the State of Washington was the first to ask for an opportunity to begin such negotiations, and we have had such negotiations with the State of Washington underway for some time. And we come down in that case almost to the point of liability as being the only point we have not reached agreement on.

Of the other repository States, none have asked us to begin such negotiations. Two of the Indian tribes have, and we have them under negotiation. Under the act, after the sites are selected for characterization, we are obligated to try to advocate or to pursue for C&C negotiation. I suspect as soon as the sites are identified for characterization, the issue will take on a much greater momentum.

I would note one other thing, if I may; that the example of your State and the Federal Government's interaction I think is an example well worth our giving attention to. We have looked at it carefully. We have talked with the people who are involved, and we will continue to do that. We have invited States that are involved with us to look at them. Some have, in one degree or another.

But we do have an additional set of factors that I think are relevant and for the purpose of this discussion, I want to note that this activity, unlike the WIPP activity, is fully regulated as if we were a private entity. That is, we are obligated to meet all of the NEPA requirements, all of the EPA rules and regulations; 40 CFR 191 was just recently issued as a final rule applying specifically to this activity. And we are obligated to meet all of the licensing requirements of the NRC.

Senator DOMENICI. Correct.

Mr. RUSCHE. Those further provide confidence, both to the States and the public, that what we are doing meets the essential tests of technical adequacy and also provides the opportunities for the political, sociopolitical and other factors to be included.

Senator DOMENICI. Thank you very much.

Senator Johnston, do you have any further questions?

Senator JOHNSTON. No further questions, thank you.

Senator **Domenici**. I want to thank you very much not only for your excellent testimony. I apologize for its length. I think that it's obvious that it's worthwhile.

Mr. **Rusche**. Unusual opportunity.

Senator **Domenici**. But I do also want to compliment you on the work you're doing. It's very difficult. Sometimes I wonder why—how we can get people of your quality even to do this. I hope you remain interested.

Mr. **Rusche**. Thank you, Senator. Appreciate it.

Senator **Domenici**. All right, we're going to take the next panel of witnesses and we'll try to go until 12:30, unless there's somebody on the next group that has a problem. Do the NRC Commissioners have any problem with 12:30? We'll try it. Let's start.

Commissioners, give me just a minute. I'll be right back.

[Pause.]

Senator **Domenici**. All right, could we have order, please? Mr. Chairman, we are ready to hear from the Nuclear Regulatory Commission. How do you desire to proceed? Do each of the Commissioners have some statement they'd like to make?

Mr. **Palladino**. Mr. Chairman, I have a prepared oral statement that I am going to present on behalf of the Commission. Perhaps the best way to proceed is to have me do that, and then you can see if other Commissioners have any additional remarks.

Senator **Domenici**. Let's proceed in that manner. First, let me say to all of you I appreciate your being here. I apologize for the time that we've kept you waiting, and we'll try to be as expeditious as we can.

Mr. Chairman, proceed.

STATEMENT OF NUNZIO J. PALLADINO, CHAIRMAN, NUCLEAR REGULATORY COMMISSION, ACCOMPANIED BY THOMAS M. ROBERTS, COMMISSIONER; FREDERICK M. BERNTHAL, COMMISSIONER; JAMES K. ASSELSTINE, COMMISSIONER; AND LANDO W. ZECH, JR., COMMISSIONER

Mr. **Palladino**. Thank you, Mr. Chairman, members of the subcommittee. It is a pleasure to be with you again. With me are my fellow Commissioners and senior members of the NRC staff with responsibilities for waste management.

We appreciate this opportunity to appear before your subcommittee today to provide the Commission's views on the Department of Energy's Mission Plan for Civilian Radioactive Waste Management Program.

The NRC has carefully reviewed DOE's draft mission plan and provided comments to DOE. With your permission, I will summarize the Commission's principal observations and submit my longer prepared statement for the record.

First, as you know, implementation of fully documented quality assurance programs, if inadequate, can cause problems in the timely licensing of a repository. We are therefore encouraged that in the final mission plan, DOE is committed to having a quality assurance program in place and implemented before beginning site characterization. We recognize that the detailed implementation of the program, as carried out by DOE and its contractors, will take time. NRC will continue to analyze this crucial underpinning of DOE's program as implementation proceeds.

Second, the NRC is committed to identifying major licensing questions sufficiently early in the prelicensing period so that DOE can resolve our comments to our mutual satisfaction without delaying either DOE's activities or the NRC licensing process. Our commitment is contingent on DOE's identifying where consultation is needed and arranging meetings with us early in the planning process in sufficient time so that NRC comments are included in DOE plans and programs before DOE decisions and commitments are made.

Third, the reference mission plan schedule allows 27 months for NRC to consider an application for construction authorization. The Commission is committed to making the license review as efficient as possible. However, we believe that the 3 years provided by the Nuclear Waste Policy Act is a very optimistic estimate for the time required, and that even this depends on the submittal of an acceptable, complete application of high quality.

We have not identified at this time specific actions which could permit the license review period to be reduced from the statutory 36 months. We intend to continue our efforts, however, to work with DOE on ways to make the licensing process as efficient as possible, consistent with our regulatory responsibility.

The final topic relates to the question of the timing of DOE's preliminary determination. As stated in the mission plan, DOE intends to make the preliminary determination required by the act at the time the three sites are recommended to the President for characterization, rather than after completion of site characterization. This was a matter raised during the Commission's siting guidelines concurrence process.

In the NRC comments on the draft mission plan, it was stated that the mission plan should be revised to reflect the agreement made at the June 22, 1984 Commission meeting on the Commissioners' concurrence decision on the DOE siting guidelines. This agreement stated—and I quote—"that the preliminary determination should be made after the completion of site characterization and not at the time of site nomination and recommendations for characterization."

The Commission held a public meeting on September 6, 1985 to hear the views of interested parties. It has also allowed an additional short period for submission of written views by the parties. The Commission also requested its Office of General Counsel to examine whether NRC is legally required by the NWPA to take any action now in response to the current DOE position on the timing of the preliminary determination. It is the Commission's intention to make a decision as expeditiously as possible as to whether further Commission action on this matter is warranted.

Before closing, I want to note that DOE is now evaluating plans to include the monitored retrievable storage facility as an integral element of its preferred high-level waste management system. NRC staff has been carefully observing and reviewing DOE's development of this strategy. Should Congress decide to authorize this approach, the necessary regulatory framework will be available on a schedule consistent with the mission plan.

Finally, I would like to state that the NRC's ability to complete actions on schedule is dependent on DOE developing the information needed for resolution of technical issues. DOE technical programs, and licensing submittals of high quality, and continued availability of adequate resources.

This concludes my prepared remarks, Mr. Chairman. My fellow Commissioners and I would be pleased to try to answer any questions you may have at this time.

[The prepared statement of Mr. Palladino follows:]

TESTIMONY OF
UNITED STATES NUCLEAR REGULATORY COMMISSION
CONCERNING THE DEPARTMENT OF ENERGY'S
MISSION PLAN
FOR THE CIVILIAN RADIOACTIVE WASTE MANAGEMENT PROGRAM
GIVEN BY: NUNZIO J. PALLADINO, CHAIRMAN
BEFORE THE
SENATE COMMITTEE ON ENERGY AND NATURAL RESOURCES

SEPTEMBER 12, 1985

MR. CHAIRMAN AND MEMBERS OF THE SUBCOMMITTEE,

WE APPRECIATE THIS OPPORTUNITY TO APPEAR BEFORE YOUR SUBCOMMITTEE TODAY TO PROVIDE THE COMMISSION'S VIEWS ON THE DEPARTMENT OF ENERGY'S MISSION PLAN FOR THE CIVILIAN RADIOACTIVE WASTE MANAGEMENT PROGRAM.

THE MISSION PLAN, WHICH IS REQUIRED UNDER SECTION 301 OF THE NUCLEAR WASTE POLICY ACT OF 1982 (NWPA), IS THE CENTRAL ORGANIZING DOCUMENT FOR DOE'S HIGH-LEVEL WASTE PROGRAM. ITS PURPOSE IS TO PROVIDE AN INFORMATIONAL BASIS SUFFICIENT TO PERMIT INFORMED DECISIONS TO BE MADE IN CARRYING OUT THE REPOSITORY PROGRAM. THE DECISIONS NOW PROPOSED IN THE MISSION PLAN WILL ESTABLISH THE BASIS FOR THE SCHEDULES AND PRIORITIES IN THE NATIONAL PROGRAM FOR A NUMBER OF YEARS TO COME.

IT IS THE COMMISSION'S VIEW THAT THE FINAL MISSION PLAN CONSIDERS ALL OF THE MAJOR NRC MILESTONES IN THE NATIONAL HLW PROGRAM, WITH THE ONE EXCEPTION THAT DOE IDENTIFIED IN THEIR RESPONSE TO OUR OBJECTIONS, NAMELY THE TIMING OF THE PRELIMINARY DETERMINATION. DOE HAS RESOLVED THE OTHER REGULATORY CONCERNS THAT WE EXPRESSED ON THE PREVIOUS TWO DRAFTS OF THIS DOCUMENT.

AS YOU KNOW, THE NUCLEAR REGULATORY COMMISSION IS THE INDEPENDENT FEDERAL AGENCY HAVING PRIME REGULATORY RESPONSIBILITY UNDER THE NUCLEAR WASTE POLICY ACT OF 1982. THE NRC HAS THE REGULATORY AUTHORITY TO OVERSEE AND CONFIRM THAT DOE'S ACTIONS UNDER THE NWPA ADEQUATELY PROTECT PUBLIC HEALTH AND SAFETY AND THE ENVIRONMENT. DOE CANNOT BUILD A GEOLOGIC REPOSITORY FOR HIGH LEVEL RADIOACTIVE WASTES WITHOUT THE COMMISSION'S AUTHORIZATION AND THE REPOSITORY CANNOT BE OPERATED UNTIL NRC HAS GRANTED A LICENSE. SIMILARLY, THE STORAGE OF COMMERCIAL SPENT FUEL PRIOR TO DISPOSAL IS UNDER NRC REGULATORY AUTHORITY. FOR THE NATIONAL WASTE PROGRAM, DOE HAS

OPERATIONAL RESPONSIBILITY -- PLANNING, SITING, CONSTRUCTING, OPERATING, AND CLOSING THE FACILITIES. NRC FOCUSES ON THE HEALTH, SAFETY, AND ENVIRONMENTAL PROTECTION ASPECTS OF THE PROGRAM.

IN NRC'S REGULATION OF DOE ACTIVITIES, IT IS DOE'S RESPONSIBILITY TO DEMONSTRATE THAT REGULATORY REQUIREMENTS ARE MET. IT IS NOT NRC'S ROLE TO MAKE THAT DEMONSTRATION, NOR TO DEVISE A STRATEGY OR TECHNIQUE FOR MAKING IT. THAT IS DOE'S RESPONSIBILITY, AND DOE'S ALONE.

THE REGULATORY PROCESS IMPOSES A SPECIAL RIGOR ON THE NATIONAL REPOSITORY PROGRAM. IF THE PROGRAM IS TO STAND UP TO THE SCRUTINY INHERENT IN THE NRC LICENSING PROCESS, THE NRC'S TECHNICAL JUDGMENTS, DOE'S TECHNICAL JUDGMENTS, AND THE PROCESS BY WHICH EACH ARRIVES AT THESE JUDGMENTS, WILL HAVE TO BE FULLY SUPPORTED AND CLEARLY DOCUMENTED. NOT ONLY MUST THE COGNIZANT FEDERAL AGENCIES ARRIVE AT TECHNICALLY VALID JUDGMENTS, BUT THEY MUST BE ABLE TO

DEMONSTRATE THIS VALIDITY IN THE OPEN FORUM OF A LICENSING PROCEEDING.

AS CAN BE SEEN, THE NRC, AS WELL AS THE DEPARTMENT OF ENERGY, HAS A VERY CRUCIAL ROLE UNDER THE NWPA; ACCORDINGLY THE COMMISSION AND THE NRC STAFF HAVE CAREFULLY REVIEWED THE FINAL DOE MISSION PLAN.

I WOULD NOW LIKE TO OUTLINE FOR YOU A FEW OF THE NRC OBSERVATIONS COVERED BY THIS IMPORTANT DOCUMENT AND THE PROGRAM IT REPRESENTS.

THE FIRST OBSERVATION INVOLVES THE MISSION PLAN'S CONSIDERATION OF A CRITICAL REGULATORY CONCERN: QUALITY ASSURANCE.

AS YOU KNOW, INADEQUATE IMPLEMENTATION OF FULLY DOCUMENTED QUALITY ASSURANCE PROGRAMS CAN CAUSE PROBLEMS IN THE TIMELY LICENSING OF A REPOSITORY. TO AVOID SUCH DIFFICULTIES IN REPOSITORY LICENSING

PROCEEDINGS, BOTH DOE AND NRC WILL NEED TO KNOW FROM THE OUTSET THAT THERE IS NO FORESEEABLE DISPUTE ON WHETHER AN ADEQUATE QUALITY ASSURANCE PROGRAM IS IN PLACE AND IMPLEMENTED. THE NRC IS ENCOURAGED THAT IN THE FINAL MISSION PLAN DOE IS COMMITTED TO HAVE A QUALITY ASSURANCE PROGRAM IN PLACE AND IMPLEMENTED BEFORE BEGINNING SITE CHARACTERIZATION. WE RECOGNIZE THAT THE DETAILED IMPLEMENTATION OF THIS PROGRAM, AS IT IS CARRIED OUT BY DOE AND ITS CONTRACTORS, WILL TAKE TIME. NRC WILL CONTINUE TO ANALYZE THIS CRITICAL UNDERPINNING OF DOE'S PROGRAM AS IMPLEMENTATION PROCEEDS.

THE SECOND OBSERVATION IS THAT A CERTAIN LEVEL OF NRC-DOE INTERACTIONS MUST TAKE PLACE TO SUPPORT THE ACTIVITIES AND SCHEDULES IN THE MISSION PLAN. WE ARE COMMITTED DURING THE PRE-LICENSING PERIOD, TO THE ESTABLISHMENT OF EFFECTIVE NRC-DOE INTERACTIONS TO IDENTIFY MAJOR LICENSING QUESTIONS; THESE INTERACTIONS SHOULD BE SCHEDULED SUFFICIENTLY EARLY SO THAT NRC COMMENTS CAN BE RESOLVED

BY DOE TO THE SATISFACTION OF BOTH AGENCIES WITH SUFFICIENT LEAD TIME SO AS NOT TO DELAY DOE ACTIVITIES OR THE NRC LICENSING PROCESS. OUR COMMITMENT IS CONTINGENT ON DOE'S IDENTIFYING WHERE CONSULTATION IS NEEDED AND ARRANGING MEETINGS WITH US EARLY IN THE PLANNING PROCESS IN SUFFICIENT TIME SO THAT NRC COMMENTS ARE INCLUDED IN DOE PLANS AND PROGRAMS BEFORE DOE DECISIONS AND COMMITMENTS ARE MADE. WHILE THE NRC STANDS READY TO MEET WITH DOE, THE NRC'S ABILITY TO WORK WITH THEM IN A TIMELY MANNER IS DEPENDENT ON DOE'S ABILITY TO PERFORM EFFECTIVE EARLY SCHEDULING OF THESE MEETINGS. EARLY PLANNING WILL ASSURE THAT NRC COMMENTS ARE RECEIVED AT A TIME WHEN THEY CAN BE INCLUDED IN DOE PLANNING IN THE MOST EFFICIENT MANNER AND ALSO WILL MAXIMIZE THE TIME AVAILABLE TO REACH AGREEMENT ON ISSUES WITH MINIMUM IMPACT ON DOE SCHEDULES, UNLESS OF COURSE, UNRESOLVED SAFETY ISSUES ARISE. WE BELIEVE THAT THE EFFECTIVE CONDUCT OF THESE EFFORTS IS THE FOUNDATION FOR THE SUCCESS OF THE PROGRAM DESCRIBED IN THE MISSION PLAN.

THE THIRD OBSERVATION IS THAT THE MISSION PLAN HAS CHANGED THE AMOUNT OF TIME THAT THE NUCLEAR WASTE POLICY ACT ALLOWS FOR THE NRC CONSIDERATION OF AN APPLICATION FOR CONSTRUCTION AUTHORIZATION. SINCE THE LAST DRAFT OF THE MISSION PLAN, THIS TIME HAS BEEN SHORTENED FROM 36 MONTHS TO 27 MONTHS.

THE NRC IS COMMITTED TO MAKING THE LICENSING REVIEW AS EFFICIENT AS POSSIBLE. HOWEVER, NRC CONTINUES TO BELIEVE THAT THE THREE YEARS PROVIDED BY THE NWPA IS A VERY OPTIMISTIC ESTIMATE FOR THE TIME REQUIRED TO REACH A LICENSING DECISION ON REPOSITORY CONSTRUCTION. THE TIME REQUIRED DEPENDS ON THE SUBMITTAL BY DOE OF AN ACCEPTABLE, COMPLETE, HIGH QUALITY APPLICATION, AND ON THE ABILITY OF DOE TO PRESENT ITS CASE FORCEFULLY AND EFFECTIVELY BEFORE THE ADJUDICATORY HEARING HELD BY THE LICENSING BOARD. WE HAVE NOT IDENTIFIED AT THIS TIME SPECIFIC ACTIONS WHICH COULD PERMIT THE LICENSE REVIEW PERIOD TO BE REDUCED FROM THE STATUTORY 36 MONTHS. WE INTEND TO CONTINUE OUR EFFORTS TO WORK WITH DOE TO

IDENTIFY AND IMPLEMENT WAYS TO HELP MAKE THE LICENSING PROCESS AS EFFICIENT AS POSSIBLE, CONSISTENT WITH OUR REGULATORY RESPONSIBILITY.

ONE SPECIFIC EFFORT WHICH IS EXTREMELY IMPORTANT IN THIS REGARD IS THE EARLY DEVELOPMENT BY DOE, IN CONSULTATION WITH NRC, OF A COMPREHENSIVE, COMPUTER BASED INFORMATION MANAGEMENT AND RETRIEVAL SYSTEM WHICH IS OPEN TO STATES, TRIBES AND OTHER POTENTIAL PARTIES TO LICENSING PROCEEDINGS. WE HAVE BEEN WORKING WITH DOE TO ESTABLISH SPECIFIC REQUIREMENTS FOR THIS SYSTEM. THE ACQUISITION OF DOCUMENTS RELEVANT TO THE LICENSE APPLICATION IS TYPICALLY A TIME-CONSUMING STEP IN THE LICENSING PROCESS BUT WE BELIEVE DEVELOPMENT OF SUCH AN INFORMATION MANAGEMENT SYSTEM CAN PRECLUDE A PROTRACTED DOCUMENT DISCOVERY PROCESS.

AS DOE RECOGNIZES IN THE MISSION PLAN, THE SCHEDULES IN GENERAL ARE AGGRESSIVE ONES. ONE OF THE KEYS TO MAINTAINING THESE

SCHEDULES WILL BE FOR DOE TO TAKE A CONSERVATIVE APPROACH TO ITS TECHNICAL WORK. FOR EXAMPLE, THE MORE DETAILED TECHNICAL PLANS WHICH WILL SUPPLEMENT THE MISSION PLAN, NEED TO ACCOUNT FOR THE FULL RANGE OF UNCERTAINTIES THAT EXIST AT EACH OF THE SITES BEING CHARACTERIZED. THIS WILL ASSURE THAT NEEDED TESTING IS IDENTIFIED EARLY IN THE SITE CHARACTERIZATION PROGRAM WHEN IT IS LEAST DISRUPTIVE TO THE PROGRAM AND SCHEDULES. WHILE MOST OF THE CRITICAL-PATH ACTIVITIES IN THE MISSION PLAN SCHEDULE ARE NOT NRC'S RESPONSIBILITY, WE COMMENT ON THIS MATTER BECAUSE THESE ACTIVITIES ARE LARGELY AIMED AT PROVIDING THE INFORMATION NEEDED FOR LICENSING. OUR INTEREST IS IN ENSURING THAT INFORMATION SUFFICIENT TO SUPPORT A LICENSE APPLICATION WILL BE AVAILABLE AT THE END OF SITE CHARACTERIZATION.

THE FINAL TOPIC RELATES TO THE QUESTION OF THE TIMING OF DOE'S PRELIMINARY DETERMINATION. AS STATED IN THE MISSION PLAN, DOE INTENDS TO MAKE THE PRELIMINARY DETERMINATION REQUIRED BY THE NWPA

AT THE TIME THREE SITES ARE RECOMMENDED TO THE PRESIDENT FOR CHARACTERIZATION RATHER THAN AFTER COMPLETION OF SITE CHARACTERIZATION. THIS WAS A MATTER WHICH WAS RAISED DURING THE COMMISSION'S SITING GUIDELINES CONCURRENCE PROCESS.

IN THE NRC COMMENTS ON THE DRAFT MISSION PLAN, IT WAS STATED THAT THE MISSION PLAN SHOULD BE REVISED TO REFLECT THE AGREEMENT MADE AT THE JUNE 22, 1984 COMMISSION MEETING ON THE COMMISSIONERS' CONCURRENCE DECISION ON THE DOE SITING GUIDELINES. THIS AGREEMENT STATED, "...THAT THE PRELIMINARY DETERMINATION...SHOULD BE MADE AFTER THE COMPLETION OF SITE CHARACTERIZATION AND NOT AT THE TIME OF SITE NOMINATION AND RECOMMENDATION FOR CHARACTERIZATION." THE COMMISSION HELD A PUBLIC MEETING ON SEPTEMBER 6, 1985 TO HEAR VIEWS OF INTERESTED PARTIES. THE COMMISSION HAS ALLOWED AN ADDITIONAL SHORT PERIOD FOR SUBMISSION OF WRITTEN VIEWS BY THE PARTIES. THE COMMISSION ALSO REQUESTED ITS OFFICE OF GENERAL COUNSEL TO EXAMINE WHETHER NRC IS LEGALLY REQUIRED BY THE NWPA TO

TAKE ANY ACTION NOW IN RESPONSE TO THE CURRENT DOE POSITION ON THE TIMING OF ITS PRELIMINARY DETERMINATION. IT IS THE COMMISSION'S INTENTION TO MAKE A DECISION AS EXPEDITIOUSLY AS POSSIBLE AS TO WHETHER FURTHER COMMISSION ACTION ON THIS MATTER IS WARRANTED.

BEFORE CLOSING, I ALSO WANT TO NOTE THAT DOE IS NOW EVALUATING PLANS TO INCLUDE THE MONITORED RETRIEVABLE STORAGE FACILITY AS AN INTEGRAL ELEMENT OF ITS PREFERRED HIGH-LEVEL WASTE MANAGEMENT SYSTEM. NRC STAFF HAS BEEN CAREFULLY OBSERVING AND REVIEWING DOE'S DEVELOPMENT OF THIS STRATEGY. SHOULD CONGRESS DECIDE TO AUTHORIZE THIS APPROACH, THE NECESSARY REGULATORY FRAMEWORK WILL BE AVAILABLE ON A SCHEDULE CONSISTENT WITH THE MISSION PLAN.

FINALLY, I WOULD LIKE TO STATE THAT THE NRC'S ABILITY TO COMPLETE ACTIONS ON SCHEDULE IS DEPENDENT ON DOE DEVELOPING THE INFORMATION NEEDED FOR RESOLUTION OF TECHNICAL ISSUES, DOE TECHNICAL PROGRAMS AND LICENSING SUBMITTALS OF HIGH QUALITY, AND CONTINUED AVAILABILITY OF ADEQUATE RESOURCES.

Senator DOMENICI. Thank you very much, Chairman Palladino. And now before we proceed to questions, I would ask if any individual Commissioner has any either further prepared remarks to be inserted into the record.

I note there are none.

Do you have any opening oral remarks you would like to make to the subcommittee before we proceed?

[No response.]

Senator DOMENICI. All right. Let me ask a few questions of either the Chairman or any members who care to comment. It's my understanding that in briefing the Commission this past Friday on the issue of the timing of the preliminary determination, a member of the legal staff, your legal staff, commented that he had a lot of trouble with the after-the-fact legislative history that the Commission had received on the preliminary determination issue.

I assume that's correct?

[The witnesses nod affirmatively.]

Senator DOMENICI. He went on to explain that his criticism was directed primarily to the letter sent to the Commission by the chairman of this committee, Senators McClure, Domenici, Simpson, and Johnston, and not to the two House letters on the same subject.

And you, Commissioner Asselstine, appeared to concur in that criticism; is that correct?

Mr. ASSELSTINE. I raised that question, Mr. Chairman. Let me expand on it just a bit and tell you what my concern was.

Senator DOMENICI. Well, let me just ask on that specific point that I've just raised, you all can think what you want about after-the-fact legislative letters, but it's my understanding that there was some distinction made between letters coming from one body or the other, attempting to tell DOE or anyone else what respective bodies, if the issue was unclear, and those participating not only in the legislation but the conference thought.

Is there a difference between the two?

Mr. ASSELSTINE. Mr. Chairman, I think the only difference is between after-the-fact explanations as opposed to specific references to the legislative history itself, the contemporaneous legislative history. I think that was the distinction that was being made.

And indeed what brought the question up, I think, most particularly was a recent court decision that, in the context of the Mill Tailings Act, makes that very point; that is, in terms of trying to understand the meaning of a statute, one has to look at the contemporaneous legislative history as opposed to after-the-fact explanations.

Senator DOMENICI. I understand.

Mr. ASSELSTINE. To the extent that both letters involved after-the-fact explanations, we have to discount those, I think, to a certain extent and equally so.

I think the difference in my mind between the Senate and the House letter was that the House letter tended to focus much more on the contemporaneous legislative history.

Senator JOHNSTON. You're talking about on the question of characterization?

Mr. ASSELSTINE. Yes.

Senator JOHNSTON. If I may just interject at this time, having been intimately involved with that, I think to me, there's not a bit of ambiguity in the statute or in what happened. I think the problem was after we had passed that conference report, it went back over to the House, and then there was language put in which staff wrote—I guess staff wrote—Mo Udall read into the record, and that established, I guess, a degree of legislative history. But in a sense, that was after the fact as well. I mean it was part of the legislative history. It should not be ignored. But it's not quite the same as something that is approved in both Houses.

It was his interpretation of what, or really probably some staffer's interpretation or wish list of what he wanted the act to say. I think the act is very clear on three sites to be characterized.

Mr. ASSELSTINE. Senator Johnston, I think part of the problem in this particular case is that there wasn't a conference report. This is one of those unfortunate circumstances that, because of the time that was involved, there wasn't a conference, and therefore you can't look at that kind of authoritative statement that reflects the views of all of the conferees in both Houses.

And to a certain extent, that leaves us with a thin legislative history, and I think a lot of it is floor statements by the managers on both sides.

Senator DOMENICI. Well, let me say now, Senator, you raise a very good question, and I think that for purposes of explanation, as I look out there and see the five of you, I don't know from Mr. Palladino this way, how much experience in this body or that body the three of you have had. I understand these two. They happen to both work over here, so I will at least, since I know them both, assume they know what was going on up here and how this was handled.

But I think the Senator makes a very good point. In the heat of a conference—and this was done, you all know how this was done—I explained in my opening remarks, it was done in a lame duck session, people getting corraled off the floor down here, writing our bill in the back room, and then we were going to run out of time and we met someplace. The conferees then said draw it, and we don't have a conference report.

Now, I hope everyone understands that if there is no conference report, anyone that wants to get up and insert a statement in the record as to what they think this bill means is free to do that. And I think the point that Senator Johnston makes, that that is someone's opinon, and it is in a very real sense after the fact, is so.

We did not choose to put statements in the record. That was our own internal decision, not based upon anything other than time, pressure, joy. Why delay this thing? I mean, the hell with statements; let's get on with it; it's done.

Is that about right, Bennett?

Senator JOHNSTON. Yes. I think we said some things on the record, but certainly we didn't talk about this point because this point was not disputed.

Senator DOMENICI. And we wouldn't even have a chance to necessarily find out what they're saying about this at that point in time. And that's the point I'm trying to make. If there's a conference report that states the intention, we can't say we didn't read it because it got filed and it's a simultaneous thing. Both Houses were presumed to have read that.

But that didn't happen in this case on this point, and I hope that everybody understands that. And that leads to—did you have anything further, Senator? I'm sorry for interrupting.

Senator JOHNSTON. I was just saying that a very central concern of ours was that we wouldn't have to look at all the different kinds of disposal, of the need for disposal, or an undue number of sites, because we were conscious of the cost of doing this thing—and the delay.

So three was very clearly decided upon.

Senator DOMENICI. Are any of you, then, of the view that the Nuclear Waste Policy Act itself requires the Secretary—that is, Secretary of Energy—to make—or precludes him from making his preliminary determination on site suitability at any particular point at time, such as at the time that he recommends three sites for characterization, or upon the completion of characterization of all sites; or is this a matter that in the absence of specific statutory direction is within the Secretary's discretion?

Mr. PALLADINO. Mr. Chairman, let me make a few comments on that particular point. I'm not experienced in the workings of the Congress, at least nowhere near the depth of my two other colleagues on my left here.

But we do appreciate letters from the Congress putting forth their opinions or their views with regard to congressional action.

On this particular matter, we're trying to interpret what the Congress intended, and to a neophyte in congressional affairs, like myself, I tend to say unless it involves an important safety issue, that we should not try to interpret the Congress. It is a matter more appropriately settled between DOE and the Congress itself.

And that's why, in my view early on, I took a view that we should remain silent on this issue. And I think that way, we will not interject ourselves into a debate and try to influence it when the influence really has to come between DOE and the Congress on what the Congress intended.

Mr. ROBERTS. In fact, if I may interject, at the meeting in June 1982 that is referred to about agreement—our, the Commission's agreement with—1984, excuse me—with DOE, Chairman Palladino and I did not participate in that issue.

My own personal view is, as you phrased the question, I certainly agree with the latter. It's to the discretion of the Secretary. We're not involved. That's a policy decision. This is a program to be executed by the executive branch. You've given them a framework and guidance. If it's unclear, let the Secretary come to you and say, Give me direction. You work it out with the executive branch, but it's not the place of the NRC to make interpretations of the act insofar as they do not relate to our specific responsibilities for public health and safety and the licensing and so forth.

So my answer to your question would be clearly, it's to the discretion of the Secretary. If you don't like his interpretation of your legislation, you have means to deal with that. But it's not our judgment.

Senator DOMENICI. Anything further?

Mr. PALLADINO. May I just make one modification?

Senator DOMENICI. Yes, Mr. Chairman.

Mr. PALLADINO. We think we participated, but to the extent of saying we thought we ought to remain silent on this matter.

Senator DOMENICI. Yes, Commissioner.

Mr. ZECH. Mr. Chairman, I probably should make a statement because I was not a Commissioner during that meeting in June of 1984 where that decision took place, but I've had a chance to review the testimony and study this very important matter.

As I look at it, there are two issues involved. First of all, there's the timing issue, and it seems to me that the timing of the preliminary determination, unless we get any further advice from our general counsel, would not affect one way or another, in my judgment, our licensing and regulatory responsibilities.

Therefore, it seems to me that this is not something that we should be involved in. This is a programmatic decision for the Secretary of Energy. And if there is debate on that particular issue, it should be resolved by the Congress.

Senator DOMENICI. Commissioner Asselstine, before you answer, let me suggest that you indicated in Tucson, according to what our staff tells us, in March 1984, on this issue: "As I read it, the act does not specify when the Secretary's preliminary determination is to be made."

That's true, isn't it, that you made that statement?

Mr. ASSELSTINE. That's correct.

Let me say at the outset that my thinking on this subject has evolved, starting with the position that I expressed in March, 1984, where I thought that there was considerable flexibility on the timing of the preliminary determination.

Let me say at the outset that I've read your letter very carefully. There's no doubt in my mind that that reflects the intent that you all had in terms of the act itself. In fact, if you go back to the original Senate-passed bill, the bill was crystal clear on this subject in terms of the number of sites that had to survive characterization and what that meant for the responsibilities, both of the Secretary of Energy and the Nuclear Regulatory Commission under the National Environmental Policy Act.

I think the question that we initially have to face, and more importantly the courts will face later on, is whether that intent still found its way clearly in the language of the act as it was finally passed.

I guess for myself, I'd have to say that I think the language isn't all that clear the way it ended up. There is a question about how much weight you put on the legislative history. Mr. Chairman, I agree with you in your characterization of the legislative history. But to the extent that you put weight on the contemporaneous statements that were made, both in the Senate and in the House—I think there was one statement in the Senate that our staff brought to our attention last week—it seems to cut in favor of saying the better view is the preliminary determination ought to be made after rather than before characterization.

That's at least my view at the present time.

Now, I have to say that from the time I made that statement that you mentioned, another factor came into my thinking on this, and that is the technical aspects. And this issue really arose in the context of the Commission's review and concurrence on the site selection guidelines. And the Commission at that time had to look at the guidelines that DOE had developed, and to decide whether they were adequate or not.

And at the time, we had a number of public meetings on that. We heard a great deal of concerns by the States about the inadequacies in the site selection guidelines. They were general in nature. They failed to specify the information that would be required and many of the States argued that there was very, very limited information available on the sites, particularly on the geologic aspects.

When I looked at that, and I looked at our own technical regulations that define site characterization in terms of the activities needed to develop the information to make a judgment on the suitability of the site, it seemed to me from a technical standpoint, that it was more appropriate to make that judgment on site suitability after you had the detailed information, rather than before.

That's why at least I, and I think a majority of the Commission, reached an agreement with Ben Rusche a year or so ago that the determination would be made after, rather than before characterization; that, in essence, he and we would exercise the discretion to make the judgment after, rather than before.

Let me mention why I think this is a matter that the Commission does have to worry about, because in the last analysis, it won't be you or us that make the judgment on what the act requires on that preliminary determination; it's going to be three Federal judges, and they're going to make that decision at the time that the Commission makes a licensing decision on the first repository.

What concerns me about this, particularly given the advice of our legal staff that they don't think the DOE approach will pass muster, is what happens if we get down the road, we've conducted all the site characterization at these sites; one or two of the sites drop out during characterization for technical reasons; we're left with one site; that's what DOE comes in with a license application for; we go through a 3-year licensing process on that site, and we make our decision that that site is adequate, only to have a Federal court come in and say, wait a minute, fellas, you didn't look sufficiently at alternate sites, and now you have to go back and spend several more years getting the detailed information for one or two additional sites before we'll let this thing go forward.

That's what concerns me and that's why I think we ought to be concerned about it, and, quite frankly, I think that's why you all ought to be concerned about resolving that uncertainty that exists.

Senator DOMENICI. Well, I understand the reasoning. I don't hesitate at all to tell you I think it's absolutely an erroneous conclusion in terms of what you ought to be doing and what your role is, because even if that were the case—and I don't think that's going to be the case—but even if it were, you have to ask yourself the question, what was your role in this and clearly you would have to conclude that this decision is yours, not DOE's.

And therein is a very, very tenuous argument that you ought to making it, not them. Even if that process evolves in that way, which many of us don't think it's going to evolve in that way, I don't think you can be second-guessing what a court's going to do 9 years from now. That may be—if you did that on everything, with all the court suits you're in, you'd even get less done than you're able to do now.

There's enough of it already. You must be changing there also, though, I might say, Commissioner, because again in March you didn't feel this way. Isn't that right?

Mr. ASSELSTINE. That's certainly true that my view has changed since March, 1984, both from the standpoint of what I think technically makes sense in terms of when you make a determination on site suitability and from the standpoint of the uncertainties about the law. And I have to say that my judgments now are based largely on a careful review of your submittal, as well as the House submittal.

Senator DOMENICI. All right.

Senator Johnston.

Senator JOHNSTON. May I say, Mr. Chairman, I share your view completely of this. I just think it's very clear. I was there. I know what our group intended, certainly what I intended in the law, and I was there every step of the way.

But if you're going to take a risk, I think that the risk of a court misinterpreting the law is one we ought to live with. And I don't expect the court would do that, although I've seen some courts do things which I consider to be incorrect, to put it mildly.

If I may turn, Mr. Chairman, to another consideration here very briefly, in the latter days prior to the recess, in one of the appropriations bills, a further extension of the so-called sunshine law was suggested with respect to the NRC on an appropriation bill.

I was handling that appropriation bill and I objected strenuously, and the author of the amendment backed off and said, well, we'll think about this, if at all, at another time.

Now, since it is such a timely issue, I would like to ask the Commission, any member, or the Chairman, or whoever, whether they think the role of the sunshine law, that is, that you cannot meet privately, talk to one another other than on the record, whether that is constructive, whether that helps public health and safety.

Mr. PALLADINO. Well, Mr. Bennett—I mean Mr. Johnston—I think that our activities should be subject to public scrutiny as far as it possibly can. But there are times in which it is important to settle some matters. Sometimes it's just responding to a letter and getting concurrence that we want to say something this way or the other way.

Not having the opportunity to get together and settle them sometimes takes a great deal of hall-walking and you propose something to one person, then you go to the next person, he proposes something different. I think we could improve our effectiveness and our efficiency if we weren't subjected to the Sunshine Act and those kind of activities.

Also, there are times in which it would be appropriate to do some brainstorming. For example, we said we wanted to develop a 5-year plan and we were advised by counsel that it was not appropriate for us to meet to discuss on what ought to be in the 5-year plan. We weren't discussing the substance of the 5-year plan, but rather we wanted to talk about what ought to be in it. And we were told we couldn't do that.

Now, a recent court decision implied that there are certain areas in which we could meet together and we said well, that would broaden our capability, and we proposed rules that said we're going to abide by the court decision and we're going to have some gatherings under certain circumstances. And there was a great deal——

Senator JOHNSTON. That amendment was to plug that loophole, quote "loophole," unquote, caused by the court decision.

Mr. PALLADINO. Well, the intent was to prevent us from doing that. Of course, all the adverse comments we received from the Congress has discouraged us from doing it, even though we said we would make the rule effective. And we did come up with some guidelines on how we were going to perform under that rule.

But to date, we haven't taken up any matter under that gathering rule that we had proposed.

Senator JOHNSTON. Anyone else care to——

Mr. ZECH. Yes, I'd like to say something else, Senator, and I appreciate your support for our actions. I think your actions were entirely appropriate. I sincerely regret the reaction that we received from the House.

Senator JOHNSTON. It wasn't from the House. It was from just some Members of the House, wasn't it?

Mr. ZECH. Several Members of the House. Yes, sir. But as far as I was concerned, I thought we were doing the right thing. The Sunshine Act is most appropriate, and we certainly need to abide by the law. I think it's a good law. We should make our decisions in public, but we go much farther than that. We are restricted in what we can talk about together by our own regulations. We have interpreted the Sunshine Act, in my view, in a much more restrictive way than we should.

It destroys our ability to be collegial. There's very little collegial process which has gone on in this Commission, in my judgment, in this past 15 months that I've been a Commissioner. I think we're not serving the public as well as we should be because of the way we interpret the Sunshine Act.

I do think that we could do a much better job for the citizens of our country if we were allowed to interpret the Sunshine Act in the way that I think the act was meant to be. We simply have a very restrictive way of interpreting that act, to the degree that it makes it very difficult, if not impossible, for us to ponder through and get something done in this Commission. It's a very, very frustrating process, mostly because of the way we interpret the Sunshine Act.

I think we should change it, and I think we have responsbilities, in spite of the opposition that we receive, to do our best to do what we think is right.

Mr. BERNTHAL. Senator Johnston, I think the record does need to be made clear that at least there was one report that came out from the House of Representatives, and that was the report from the Appropriations Committee over there that in fact applauded the Commission's action with respect to its interpretive new rule on the Sunshine Act.

It was not just that we were conforming with the expressed interpretation of the Supreme Court and therefore conforming with what the Supreme Court saw and endorsed in the conference guide, the administrative guide to interpretation of the Sunshine Act. The Supreme Court endorsed that interpretation. We were conforming with that interpretation.

Much has been made of what, in my judgment, is a simple attempt on the part of the body to conform with common sense and the intent of the law, and there was nothing more or less than that done by this agency.

Mr. **ASSELSTINE**. Senator Johnston, I guess I should add that I did not favor the approach the Commission took. I would point out at the outset that we already close about a third of our meetings each year. The Sunshine Act allows us to meet in private and discuss among ourselves a full range of matters; all adjudications, that's all our licensing cases; any investigations that are underway; what to do about investigations; taking enforcement action; management matters; personnel matters. All of those matters can now be closed under the Sunshine Act. We've closed those for years, and roughly one-third of our meetings every year are closed to discuss just those kinds of issues.

The two examples the chairman gave—answering letters—I guess I'm not sure we need to sit down and have meetings to decide how to answer letters. And as far as the 5-year plan is concerned, I don't understand why we wouldn't want to sit down in public and discuss that. What this agency is going to be doing over the next 5 years strikes me as something of substantial interest, not only to the public, but also to the industry.

And I think they'd want to be able to hear our discussions about what we think the challenges are that we're going to be facing and what we ought to be doing to meet those challenges over the next 5 years.

I'm not sure I understand why we have to meet in private to discuss something like that. I think the problem with what the Commission has proposed, first, I'm not convinced that the Supreme Court decision really allows it. Second, nobody would know we're having these gatherings. There would be no record of them, either internally or externally. And I think the other problem is the manner in which the Commission went about trying to make this change.

The Commission imposed the change and said, well, we'll give people an opportunity to comment on it, but we're going to go ahead and make it effective right away, and start holding these gatherings. And there really was an uproar about that, not only in the House committee but also in the public.

There's a stack of editorials from newspapers all across the country, criticizing the Commission most particularly for how it went about trying to make this change. And I think the manner in which the Commission tried to make it for all practical purposes, has stymied the whole thing. The Commission hasn't held one of these sessions and I think the reason was the outcry over the way in which the Commission went about doing it.

At the very least, the Commission should have gotten comment from people before it tried to make the change.

Senator **JOHNSTON**. Mr. Chairman, I didn't mean to delay this by bringing up an extraneous issue, but I would like to make one final comment. That is to say that I strongly agree with the first comments made.

The idea of a collegial body that cannot talk to one another with dispatch, quickly, without convening a big meeting and having a court reporter there just to say good morning, I think is the height of absurdity. It's the reason that billions of dollars have been added to the cost of doing business in the nuclear business. It's one of the big reasons.

And we put the requirement on you. It's one of the big reasons that the nuclear industry is dead in terms of being able to build any more plants. And it's a requirement of Congress.

Now, to the extent the court allows it, I think to the extent of efficiency, and you can maximize safety, delay and safety are not the same thing. They simply are not. The Japanese have proved that. Their scram rate is much better than ours. Either we ought to change these things so a collegial body could function as a collegial body, or we ought to have it under the control of the chairman.

We've designed that. It's not your fault, but we've designed it that way. I mean the Sunshine Act is a good thing up to a point. Your point was a good one. That may have been a violation of the Sunshine Act when you're sitting out there talking to one another. What were you talking about? You know, we're entitled to know. Where was the court reporter?

I think it is the height of absurdity and I want to applaud the Commission in at least looking through that little bit of opening of sunlight, and I would also say 1 or 2 editorials or 10 or 20 editorials does not mean they're right, and it doesn't reflect the public opinion, and a few people over in the House doesn't mean the Congress is disapproving.

There are a few of us who disagree with what they've said.

Senator DOMENICI. Let me tell you, Senator, you've indicated you were over in Japan. I happened to be there after you, not by a long time, but to reflect their most recent estimates of licensing, they are now down to a current estimate, Bennett—excuse me, of completion of a plant, from the very starting point, the licensing, building it—they're now down to expecting 47 months down off the previous that you referred to. I think they've come down 4 or 5 months.

I'm not suggesting that we have even a system by virtue of what we've legislated that could get us there.

Let me make this last point on the issue that I think brought you here today. Clearly, you all are involved as a Commission ultimately as the protectors of the public's health and safety if we ever get around to the permanent high-level depository that the Department of Energy, headed by Mr. Ben Rusche, are in charge of planning and ultimately building.

Now, let me—I've heard your reasoning, Commissioner Asselstine, for involving this Commission in interpreting the issue before us.

Now let me see if I have it right. None of you have answered this subcommittee that your injecting yourself in this issue has any effect upon your ability to properly supervise and ultimately license one of these facilities; is that correct?

Mr. Asselstine. No, not for me, Mr. Chairman. We have a responsibility under the National Environmental Policy Act to consider alternatives. The Nuclear Waste Policy Act did not discharge us from that responsibility; we're stuck with that, just like DOE is. And I think that we have to be involved in this particular issue because of that; because we're going to be sued right along with DOE on the basis of our licensing decision.

We have an independent responsibility to assure ourselves that NEPA has been satisfied, so I think we're stuck with the issue, just like DOE is.

Senator Johnston. In fairness, if I may interject, subsection 114(f) says what you shall do to satisfy the Environmental Policy Act. For the purpose of complying with the requirements of the National Environmental Policy Act, et cetera, the Secretary shall consider—so——

Senator Domenici. Then let me say that you have added another reason to your reasoning, and my previous statement was correct, that your concern as expressed to this subcommittee had nothing to do with whether you could properly pass judgment. You were saying, I'm concerned that we're going to get all the way down the road and then if we pass judgment, we will have wasted a lot of time.

And I was merely trying to establish on the record that if that was the only concern expressed for this subcommittee, by this five-member Commission, that has nothing to do with whether you could exercise your jurisdiction to properly supervise and ultimately license.

And now you, as one Commissioner, have said NEPA adds another to you, if in fact NEPA requires that this be interpreted that way. So that's the only other reason that the Commission is giving to this subcommittee. Am I correct?

Some have said it's up to the Secretary, and I've heard that and that's been noted. You have said you don't think it is. It's up to you all. You then said you don't want to get all the way out there and find we're wrong. That was one reason given in this record.

Now you've given one more. Are there any others from any of you?

Yes.

Mr. Bernthal. Mr. Chairman, I just want to make the point that it's at least—and I'm not a lawyer. My colleague to my left is. But it's at least a questionable circumstance that one could successfully challenge the procedure as laid out by Department of Energy at this point under the NEPA Act.

I'm advised by counsel that one could postulate such an argument, but I don't believe in my judgment it's nearly as clearcut as has been suggested or represented by Commissioner Asselstine.

The issue before the Commission right now, it seems to me, is a simple one. We do need to consult with our counsel and make sure that there is not a legal and procedural question that could arise at some point down the line. Whether or not, given this unfortunate circumstance that there was an apparent agreement, whether that somehow would place our decisionmaking process in legal jeopardy. And if that's the case, that wouldn't be in anybody's interest, and then it may indeed be necessary for the Commission to take some further action.

But we've made no such determination at this point, to my knowledge.

Senator DOMENICI. I understand and that will be noted.

Mr. PALLADINO. I'm glad Commissioner Bernthal brought that up because I was going to bring that matter up.

Senator DOMENICI. I understand.

Mr. ZECH. Mr. Chairman, I associated my remarks with your view earlier, in that I believe we have enough responsibilities on this Commission for licensing and regulation and we should be involved in those responsibilities and that the timing is not crucial to our responsibilities. That's my view.

Senator DOMENICI. I hear nothing further. Unless there's further questions—did you have anything further?

Senator JOHNSTON. No, except to thank all the members of the Commission for coming. I think it's notable that we had all the Commission here, and I think that is very good and I want to thank them for it.

Senator DOMENICI. I concur, and I thank you very much.

We stand in recess until 1:30 for those witnesses, and we'll try to expedite.

[Whereupon, at 12:50 p.m. the hearing recessed, to reconvene at 1:30 p.m., this same day.]

AFTERNOON SESSION

Senator DOMENICI. Excuse me. That other committee I preside in has a bigger gavel in it. This one gets all messed up up here. Maybe I'll bring my big one if you all misbehave, all right.

I understand we're going to take the State representatives and affected Indian tribes. We are going to take the panel that's listed on the agenda sheet on the right-hand side. Mr. Dean Tousley, is that correct?

Mr. TOUSLEY. Tousley.

Senator DOMENICI. Tousley, pardon me; representing the Yakima Indian Tribe, State of Washington; Mr. Patrick Spurgin, director of High Level Waste, Office of Governor of Utah; Mr. Gregg Larson, director of High Level Radioactive Waste, Office of the Governor of Minnesota; Mr. James E. Word, commissioner, Department of Health and Environment, State of Tennessee. Mr. Word is not here? OK. And Ms. Suzan Harjo.

Let's proceed. If Mr. Word comes, we'll invite him to take a seat. Here he is. I think you're right here.

All right. Now, we have a number of witnesses and I know you all have a great deal to contribute and much to say, but so we'll get everybody in—we have a vote at 2:30 on the floor, and then at 3 o'clock a State Department briefing. We're going to get this done, even if we have to miss some of the other events down here in the Senate, but we'd like each of you to help us with 5-minute opening statements, and your statements in the record, and then answer questions.

Is that satisfactory? All right. Let us start as we called you off. Please proceed.

STATEMENT OF DEAN R. TOUSLEY, ON BEHALF OF THE YAKIMA INDIAN NATION, STATE OF WASHINGTON

Mr. TOUSLEY. Mr. Chairman, I'm Dean Tousley, an attorney for the Yakima Indian Nation, which is an affected Indian tribe with respect to the Hanford site under the Nuclear Waste Policy Act. On behalf of the tribe, I thank you for this opportunity to address you on this important subject.

I will briefly address five aspects of DOE's mission plan today. No. 1, the preliminary determination of suitability. The Yakima Nation feels strongly that the preliminary determination of suitability required by NWPA, section 114(f), must come at or near the end of site characterization in order to have any significance and to comply with the natural meaning of the act and the National Environmental Policy Act.

An EIS which considers as alternatives sites which are known at the time to be unsuitable would be excellent grist for successful NEPA lawsuits. We have attached to our testimony our recent comments to NRC on this issue.

No. 2, the program schedule. The Yakima Nation agrees with the need for continuing progress toward disposal of radioactive waste. However, we are very concerned about DOE's inclination to elevate the schedule above all other considerations. Although virtually every deadline at the front end of the schedule has been missed, and with justfication we believe, DOE refuses to concede that the ultimate deadline of repository operation by 1998 must also be relaxed.

The only way that deadline can still be met is by cutting corners in future stages of the program, such as site characterization or NRC licensing. Such shortcuts would seriously hurt both the technical quality of the program and meaningful consulation and cooperation with States and affected Indian tribes.

It is important to remember that previous failures in national nuclear waste disposal efforts have resulted as much from institutional inadequacies as from technical ones.

No. 3, defense wastes. The mission plan states that readily retrievable liquid defense wastes as the Hanford site will be solidified and disposed in a repository. It does not explain that DOE views the overwhelming majority of the exist waste at Hanford, which constitutes 60 percent by volume of the Nation's total inventory, to be not readily retrievable and thus somehow not subject to the requirement of disposal in a repository.

The mission plan does not explain DOE's legal authority to dispose of these wastes other than in a repository, nor does it discuss the implications for the repository in terms of size, schedule, design and transportation considerations if this waste does have to be disposed of in a repository.

No. 4, the first repository potentially acceptable sites. DOE maintains that Congress intended to endorse the sites which have been selected by DOE prior to NWPA passage. If this is correct, we believe it is the most serious mistake that was made in developing this legislation. A lack of a systematic screening process poses very serious threats to the likelihood of successfully siting and licensing of first repository.

For example, initial consideration of two of the three sites which DOE now favors was based on Federal ownership rather than natural isolation characteristics. This makes a mockery of the key NWPA requirement that sites should be primarily on the basis of detailed geologic considerations. Virtually every technical assessment except DOE's suggests that the Hanford in fractured, highly stressed, saturated basalt, just a few miles from the second most important river in the country, would never be selected on the basis of detailed geologic considerations.

The fact that DOE rates such a site in its top three does not speak well for the quality of the slate of candidates or for the selection among them.

We urge Congress to ensure that technical excellence is the key consideration in the selection of sites for both repositories. The first repository site selection should be based on a national screening program designed to find the sites that are among the best that can be found.

The delay this recommendation would entail is more than compensated for by the vastly increased likelihood of a technically suitable repository.

Finally, the integrated MRS proposal. The Yakima Nation has not yet developed a final position on the proposed integrated MRS facility. The new proposal may offer significant benefits by partially decoupling the waste acceptance and repository loading schedules. This would enhance the ability to base repository siting and development decisions on merit, rather than having them overwhelmingly driven by unrealistic deadlines, as is now the case.

We tentatively support DOE's efforts to flesh out this proposal; however, we believe it should be explicitly coupled to a relaxation of the repository operation deadlines.

For the foregoing reasons, the Yakima Nation opposes adoption of the mission plan as submitted to Congress by DOE.

I thank the subcommittee for this opportunity to present our views.

Senator DOMENICI. You're most welcome.

[The prepared statement of Mr. Tousley follows:]

UNITED STATES SENATE

Hearings before the

COMMITTEE ON ENERGY AND NATURAL RESOURCES

SUBCOMMITTEE ON ENERGY RESEARCH AND DEVELOPMENT

on the

DOE Mission Plan for the Civilian Radioactive Waste Management Program

STATEMENT ON BEHALF OF THE YAKIMA INDIAN NATION

September 12, 1985

Mr. Chairman, members of the Subcommittee--

My name is Dean R. Tousley, I am an attorney at Harmon & Weiss here in Washington, D.C., associate attorneys for the Yakima Indian Nation. The Nuclear Waste Program of the Yakima Nation has asked me to present this statement on DOE's Mission Plan on the tribe's behalf today.

The Yakima Indian Nation had petitioned the Interior Secretary and was designated as an "affected Indian tribe" under the Nuclear Waste Policy Act within three months of passage of the Act. Since that time, the tribe has participated extensively in every aspect of the national radioactive waste disposal program, including prior testimony before this and other committees of Congress. We appreciate this opportunity to make known our views on this very important subject.

There are many aspects of DOE's Mission Plan which are a matter of great concern to the Yakima Nation. I will briefly address just five of them today.

1) Preliminary Determination of Suitability

DOE states in the Mission Plan that it will make the preliminary determination of suitability required by section 114(f) of the Nuclear Waste Policy Act at the time that it recommends three sites to the President for characterization. As we have recently stated in comments to the NRC, which we have submitted to the Subcommittee with our testimony today, the Yakima Nation feels strongly that the preliminary determination must come at or near the end of site characterization in order to have any significance and to comply with the "natural meaning" of the statutory language and the National Environmental Policy Act. An environmental impact statement which considers as alternatives sites which are known at the time to be unsuitable would be excellent grist for successful NEPA lawsuits.

2) Program Schedule

The Yakima Indian Nation supports the need for continuing progress toward successful disposal of high-level radioactive wastes. However, we are very concerned about DOE's apparent inclination--in spite of vigorous protests to the contrary--to elevate the schedule above all other considerations. This inclination is most tellingly manifested by the fact that, although virtually every deadline at the front end of the schedule has been missed--and with justification, we believe--DOE refuses to concede that the ultimate deadline of repository operation by 1998 might also need to be relaxed.

The only way the 1998 repository operation deadline can still be met is by cutting corners in future stages of the program, such as site characterization and the NRC licensing process. Quite apart from the obvious negative effects this schedule pressure would have on the technical quality of the program, the damage to the institutional aspects--that is, meaningful consultation and cooperation with states and affected Indian tribes--would be very threatening to the program. It is important to remember that previous failures in national nuclear waste disposal efforts have resulted as much from institutional inadequacies as from technical ones.

3) Defense Wastes

The Mission Plan treatment of the disposal of existing defense wastes is utterly deficient. It states that "readily retrievable" liquid wastes at Hanford will be solidified and disposed in a repository. It does not explain that DOE views the overwhelming majority of the existing defense waste at Hanford--constituting 60 percent by volume of the nation's total inventory of defense wastes--to be "not readily retrievable", and thus somehow not subject to the requirement of disposal in a repository. The Mission Plan does not explain DOE's legal authority to "dispose of" these wastes other than in a repository. Moreover, the Mission Plan does not discuss the implications for the repository size, loading schedule, and design and the transportation systems if this waste does have to be disposed of in a repository.

4) First Repository Potentially Acceptable Sites

DOE maintains that Congress intended, by virtue of certain deadlines in the NWPA, to endorse the so-called potentially acceptable sites which had been selected by DOE prior to NWPA passage. If this contention is correct, we believe it is potentially the most serious mistake that Congress made in developing this legislation. The lack of a systematic screening process such as is now occurring for the second repository site poses very serious threats to the likelihood of successfully siting and licensing a first repository.

For example, initial consideration of two of the three sites which DOE proposes in the draft EAs to recommend for characterization was based on federal ownership rather than natural isolation characteristics. The NWPA makes ownership a consideration in selecting repository sites, but does not suggest that this factor should serve as the initial or a major consideration, as it has in the DOE first repository program. This makes a mockery of the key NWPA requirement that sites should be selected primarily on the basis of detailed geologic considerations.

DOE's analysis of these sites under the siting guidelines considers only whether the sites would be disqualified, not whether they could have been selected based primarily on geologic considerations, as required by section 112(a) of the NWPA.

Virtually every technical assessment except DOE's--including evaluations by a National Academy of Sciences committee and DOE's own technical overview committee for the Hanford Site--suggests that a site in fractured, highly stressed, saturated basalt just a few miles from the second most important river in the country would never be selected on the basis of geologic considerations. The fact that DOE rates such a site in its top three does not speak well for the quality of the slate of candidates or for the selection among them.

The Yakima Nation urges Congress to do whatever is necessary, including amend the NWPA, to ensure that technical excellence is the key consideration in the selection of sites for both the first and the second repositories. The first repository site should be based on application of discriminating guidelines in a national screening program such as is being implemented for the second repository. The delay this recommendation would entail is more than compensated for by the vastly increased likelihood of a technically suitable repository.

5) Integrated MRS

The Yakima Indian Nation has not yet developed a final position on the integrated Monitored Retrievable Storage facility which forms a key aspect of DOE's final Mission Plan. In the past, we have consistently taken the view that interim steps which would increase the necessary waste handling and transportation just to take up a few years' slack in repository availability should be avoided.

The new integrated MRS proposal, as suggested by the Office of Technology Assessment in a recent study for the House Subcommittee on Energy Conservation and Power, may offer significant benefits in terms of partially decoupling the waste acceptance schedule and the repository loading schedule. The primary benefit of such a decoupling, in our view, would be that it would enhance the ability to base repository siting and development decisions on merit rather than to permit those decisions to be overwhelmingly driven by unrealistic deadlines, as is now the case.

The Yakima Nation tentatively supports DOE's efforts to flesh out these system integration issues. However, we believe they should be explicitly coupled to a relaxation--but not abandonment--of the repository operation deadlines.

For the foregoing reasons, the Yakima Indian Nation opposes adoption of the Mission Plan as submitted to Congress by DOE. On behalf of the Yakima Nation, I thank the Subcommittee for this opportunity to present our views on this important document.

UNITED STATES OF AMERICA

NUCLEAR REGULATORY COMMISSION

Before

Nunzio J. Palladino, Chairman
Thomas M. Roberts
James K. Asselstine
Frederick M. Bernthal
Lando W. Zech, Jr.

NRC's Posture Concerning the Department of Energy's Timing of the Preliminary Determination of Suitability for Development of a Site as a Repository Under Section 114(f) of the Nuclear Waste Policy Act of 1982	42 U.S.C. § 10134(f) 49 Fed. Reg. 28130

VIEWS OF THE YAKIMA INDIAN NATION

On July 10, 1984, following an extensive process, the NRC published in the Federal Register its final concurrence (49 Fed. Reg. 28130) in the Department of Energy's general guidelines for the selection of high-level radioactive waste repository sites (10 CFR Part 960) pursuant to section 112(a) of the Nuclear Waste Policy Act of 1982 ("NWPA"), 42 U.S.C. § 10132(a). Before giving its final concurrence, the Commission had requested DOE to make several substantial changes to the guidelines as they had been submitted to the Commission.

Among the issues for which the Commission ultimately sought improvements in the siting guidelines was the timing of DOE's preliminary determination of suitability of a prospective site for development as a repository pursuant to section 114(f) of the NWPA. That section of the Act states, in part:

> For purposes of complying with the requirements of the National Environmental Policy Act of 1969 ... and this section, the Secretary shall consider as alternate sites for the first repository to be developed under this subtitle 3 candidate sites with respect to which (1) site characteri-

> zation has been completed under section 113; and (2) the Secretary has made a preliminary determination, that such sites are suitable for development as repositories consistent with the guidelines promulgated under section 112(a).

In the revised guidelines which DOE submitted to NRC following the Commission's preliminary concurrence decision and extensive interactions between the two agencies, DOE had on its own initiative inserted language in the guidelines to the effect that the preliminary determination of suitability would be made prior to site characterization, at the time that three sites are recommended for characterization. Numerous interested parties objected to DOE's interpretation, as it goes against the natural meaning of the statutory language, which requires first characterization of at least three sites, then a preliminary determination of suitability, in that order. Moreover, because of another provision in section 114(f), DOE's position has serious adverse implications for the Commission's ability to comply with its obligations under the National Environmental Policy Act of 1969 ("NEPA").

At its June 22, 1984 public meeting concerning final concurrence in the guidelines, the timing of the preliminary determination of suitability was a major, if not the major, topic of discussion. Most of the representatives of affected States and Indian Tribes that addressed the Commissioners that day, including the Yakima Indian Nation, expressed strong support for the position that the preliminary determination of suitability should be made after site characterization was completed, and a host of reasons was offered in support of that position. Commissioner Asselstine, with the apparent support of Commissioners Gilinsky and Bernthal and the abstention of Chairman Palladino and Commissioner Roberts, urged DOE Office of Civilian Radioactive Waste Management Director Benard Rusche to accede to the view that the preliminary determination of suitability should come after characterization, and there should still be three apparently suitable sites at that time.

At that June 22 meeting, Mr. Rusche quite clearly agreed to the first request, concerning the timing of the determination, and declined to accede to the second, concerning the number of suitable sites that must be found at that time. As to the latter issue, Commissioner Asselstine and Mr. Rusche agreed to disagree, leaving resolution for a later time. But as to the timing, Mr. Rusche's concession was unmistakable. The Commission's final concurrence decision agrees completely with this version of the events at that June 22 meeting, stating:

> At the June 22, 1984 Commission meeting, the Commission and DOE agreed that the preliminary determination required by section 114(f) of the NWPA should be made after the

> completion of site characterization and not at the time of site nomination and recommendation. The Commission and DOE therefore agree that the last sentence of the first full paragraph in § 960.3-2-3 of Subpart B should be deleted.

49 Fed. Reg. at 28139, col. 3. DOE now takes the following incredible position, explicated by Mr. Rusche at his July 29, 1985 briefing for the Commissioners, concerning the meaning of this passage:

1) The first sentence quoted above has no effect.

2) The effect of the second sentence is that, while DOE must take the statement of its preferred interpretation out of the guidelines, it is perfectly acceptable to put the very same provision in the Mission Plan. (The Commission, coincidentally, has no concurrence authority over the latter.)

3) DOE did not bring to the Commission's attention its disagreement with the obviously inconsistent language of the concurrence decision because the Department supposedly did not see any inconsistency.

In sum, DOE takes the position that the only thing agreed to at the June 22, 1984 meeting with respect to this subject was that its resolution should be deferred to a later time. We submit that this conclusion cannot be reached from a reading of the transcript of that meeting, or from the concurrence decision.

The Merits

The Yakima Indian Nation presented its arguments in support of Commissioner Asselstine's view of this provision at the June 22, 1984 meeting, but they bear reviewing here. The first and controlling reason for interpreting section 114(f) to require the preliminary determination of suitability after site characterization is that the plain meaning rule of statutory construction requires this interpretation. The NWPA essentially curtails the effect of NEPA until the stage when DOE applies to NRC for authorization to construct a repository. Only at that stage must DOE prepare a NEPA environmental impact statement, which must, to the extent practicable, be adopted by the Commission as part of its licensing. The consideration of alternatives in the EIS, which has been repeatedly held to be the very heart of NEPA compliance, is to be limited to those three sites which have been characterized and preliminarily determined to be suitable, in that order.

While Congress limited the general environmental law of the land by delaying NEPA implementation, Congress retained the driving force of NEPA by requiring that viable alternatives be considered by the decision-makers. The seminal consideration of alternatives must still be a serious undertaking in the EIS for a repository. DOE's interpretation would mean that the EIS alternatives could consist of DOE's preferred site plus two sites which characterization has shown to be unsuitable. That clearly would not satisfy the NEPA requirement for a meaningful consideration of alternatives. Moreover, it would prevent the NRC from adopting DOE's EIS, thus causing a major delay in the waste disposal program.

A meaningful consideration of alternatives requires that the alternatives be viable ones at the time when the EIS is being drafted, which is at the end of site characterization. It is inconceivable that an EIS could be found acceptable if the alternatives it considers were deemed suitable five years earlier, but are known at the time of EIS preparation, on the basis of characterization, to be unsuitable. Yet this is precisely the implication of DOE's interpretation of this passage.

Finally, the Yakima Indian Nation feels very strongly that the post-characterization timing of the preliminary determination of suitability is called for in order to provide an incentive for DOE to select the best possible sites for characterization. If DOE knows that it must have three suitable sites at the end of characterization in order to submit a suitable EIS, it will have a strong incentive to choose the best sites it can for characterization. It is apparent from the draft environmental assessments and the sites proposed to be recommended for characterization therein that the current lack of such an incentive poses a serious threat to the prospects for successful accomplishment of this program's objectives.

Since the Environmental Protection Agency has eliminated from its environmental standards in 40 CFR Part 191 any assurance requirement calling on DOE to select sites so as to keep radioactive releases as low as reasonably achievable, there is no remaining provision in the implementing regulations of any of the three involved agencies which call for excellence in site selection. Mere "suitability" is the only standard that DOE feels compelled to satisfy.

We submit that in light of the enormous uncertainties and unprecedented time frames of concern in this program, our twentieth century subjective findings of absolute suitability of a site do not provide sufficient assurance that any site will in fact isolate wastes from the environment for a long enough time. The additional comparative finding that the chosen site is among the best that can be found substantially improves confidence that isolation will be successful. DOE must have three suitable sites at the end of characterization, as required by the language of the statute, in order to satisfy its and the Commission's NEPA obligations. This requirement supplies a strong incentive for DOE to choose for characterization sites that are among the best that can be found.

Conclusion

The clear understanding which was apparent at the end of the June 22, 1984 meeting and in the Commission's final concurrence decision with respect to this matter was very significant to the Yakima Nation. It contributed substantially to a conclusion by us that our extensive participation in the Commission's concurrence process had been a worthwhile pursuit and that the process had yielded important improvements in the siting guidelines and the likelihood of a successful waste program generally. If the Commission reneges on this understanding now, it will greatly degrade that sense of accomplishment on our part.

The Yakima Indian Nation urges the Commission, consistent with the plain meaning of the language in section 114(f) of the NWPA and its NEPA obligations as modified by the Act, to retain the current language of its concurrence decision and require DOE to accede to the position it already agreed to at the June 22, 1984 Commission meeting; i.e., that the timing of the preliminary determination of suitability should be after site characterization.

We thank you for this opportunity to restate and amplify our views concerning this important issue.

Senator Domenici. I guess I called Mr. Spurgin's name next, so why don't we go that route?

STATEMENT OF PATRICK D. SPURGIN, DIRECTOR, HIGH LEVEL WASTE OFFICE, OFFICE OF THE GOVERNOR, STATE OF UTAH

Mr. Spurgin. Thank you, Mr. Chairman. My name is Patrick Spurgin. I am from the Utah High Level Nuclear Waste Office.

We believe that the mission plan must serve two key purposes: First, requirements for the mission plan oblige the Department of Energy to consider its responsibilities under the Nuclear Waste Policy Act and to carefully plan for their implementation.

Second, the plan must enable Congress and other parties to evaluate the adequacy of the Department's implementation of the act.

While the mission plan is a significant work, we must regrettably note that these two key purposes have not been served. In accordance with the act, careful consideration and implementation of the Department's responsbilities requires a consideration of information needs for each step of the statutory site selection process. The mission plan fails to provide for the identification of informational needs or the identification of a potentially acceptable site under section 116 of the act and for the nomination and recommendation of a site for site characterization under section 112 of the act.

The great danger of this failure to identify information requirements is that unsuitable, or least suitable sites will be characterized and potentially recommended for a repository.

For example, the Davis Canyon site in the State of Utah was identified as the potentially acceptable site by application of screening criteria developed before the passage of the Nuclear Waste Policy Act. For practical purposes, one of these criteria excluded areas which are within two kilometers of the subsurface fault.

Subsequently, for the identification of Davis Canyon as a potentially acceptable site, the Department of Energy collected information indicating that such a fault did in fact exist less than 2 kilometers from the Davis Canyon site. Presumably, if the information had been available at the time of the early site screening decision, Davis Canyon would not have received further consideration as a site.

As a further example, the Department of Energy has assumed the presence of certain hydrologic conditions at Davis Canyon in determining its potential acceptability and preliminary suitability for site characterization. Information we have only recently received strongly suggests that these assumptions are simply wrong, due to the influence of the nearby geologic structure known as the Indian Creek Syncline.

All of this information strongly suggests the inadequacy of the site screening information collection process and that continued consideration of Davis Canyon as a potentially acceptable site was misguided. This is the consequence of the program that was set forth in the mission plan.

Senator DOMENICI. Would you pull the mike up a little closer to you, please?

Mr. SPURGIN. As indicated earlier, the mission plan must enable Congress to evaluate the sufficiency of the implementation of the act. We do not believe that sufficient information has been provided in the mission plan to serve this purpose. The strong example is chapter 3, part 2 of the mission plan which considers financial, political, legal, and institutional impediments to program implementation.

A key omission from chapter 3 is the failure to give a clear picture of the consequences of those ambiguities within the Nuclear Waste Policy Act. I have to say that the ambiguity of fundamental provisions of the act virtually assure litigation down the road. There is, in fact, already litigation, as we all know.

The Department of Energy is, I think, unquestionably aware of the fundamental differences that do exist right now concerning interpretation of the requirements of the act as between the States and Department of Energy and other parties and the consequential liklihood of resort to section 119, judicial review.

Explication of the key points of contention should be provided to the Congress to enable congressional evaluation.

Congress must also be apprised of the cost of judicial resolution of program conflicts and of the Department's intention to treat them as something other than program costs. The effect of this is to shift these program costs to the State taxpayers, rather than covering the costs with the nuclear waste plan.

Other insufficiencies in the mission plan of particular concern to Utah are the treatment of proprietary information in the plan and otherwise, and the failure to discuss potentially significant conflicts between the mandates of the Department of Energy and other Federal agencies.

The use of proprietary data, without meaningful opportunity for State review, undermines the basic purposes of the consultation and cooperation provisions of the act which is to promote public confidence. Negotiation, in the case of Utah at least, of information exchange mechanisms within C&C agreements may founder on the treatment of proprietary data.

While the Department acknowledges the difficulties in acquiring access to the control of lands is a potential impediment, DOE fails to discuss the potential conflicting land use mandate of Federal agencies which control land to which access may be required for site characterization purposes.

Senator DOMENICI. Would you just stop for a minute and let me get brought up to speed? I don't understand.

Mr. SPURGIN. The proprietary?

Senator DOMENICI. Yes.

Mr. SPURGIN. I mentioned earlier that DOE found a fault subsequent to the designation of Davis Canyon as a potentially acceptable site. That fault was discovered or is inferred from data, that it was collected by private companies, and as such, it is presently being protected under the provisions of the Freedom of Information Act; and that as a result, while we are in a position to go in and visually inspect data, we are not in a position to actually take data home and do the numbers crunch on it, do an analysis of it to see what it really means. In other words, to verify the conclusions that have been tentatively reached by the Department.

There is a high likelihood—to continue—that site characterization of Davis or Lavendar Canyons in the State of Utah would require drilling within the boundaries of Canyonland's National Park, and the Park Service has already stated that drilling in the park would be in conflict with both park management plans and with enabling legislation for the park.

For these reasons, we do not believe that the mission plan satisfies the requirements of the Nuclear Waste Policy Act.

Thank you.

Senator DOMENICI. Did you have a more detailed statement?

Mr. SPURGIN. Yes, I do.

Senator DOMENICI. That will be made a part of the record.

[The prepared statement of Mr. Spurgin follows:]

STATEMENT OF PATRICK D. SPURGIN
ON BEHALF OF THE STATE OF UTAH BEFORE
THE SENATE COMMITTEE ON ENERGY AND NATURAL RESOURCES, SUBCOMMITTEE ON ENERGY RESEARCH AND DEVELOPMENT

MR. CHAIRMAN AND MEMBERS OF THE SUBCOMMITTEE:

Thank you for this opportunity to provide this statement on behalf of the State of Utah concerning the Department of Energy's Mission Plan. Section 301 of the Nuclear Waste Policy Act of 1982 requires the Secretary of Energy to prepare a comprehensive report which shall provide an informational basis sufficient to enable informed decisions to be made in carrying out the Department's nuclear waste management program. The Act requires that the Mission Plan contain certain elements which includes, among others,

a) an identification of primary scientific engineering and technical information necessary for siting and construction of a repository;

b) an identification of necessary information which is not available due to unresolved technical questions, and a plan for resolving such issues; and

c) an evaluation of the legal, financial, political and institutional impediments to the implementation of the Nuclear Waste Policy Act and recommendations for legislation to remove such impediments as appropriate.

The Act also requires that the Mission Plan be submitted to various federal agencies and the states and ultimately to Congress.

We believe that the Mission Plan is intended to serve several purposes. One of those purposes is to oblige DOE to consider its responsibilities under the Nuclear Waste Policy Act and to plan carefully for their implementation. Another purpose is to enable the Congress, the states, and the general public to evaluate the adequacy of DOE's implementation of its responsibilities under the Act.

Through the Nuclear Waste Policy Act, Congress has given the Department of Energy a technically complex and politically difficult job. The issuance of the final Mission Plan in June of 1985 is the culmination of many months of effort by many people. The magnitude of the job to be done, and the effort expended must naturally inspire a sense of accomplishment among the drafters. However, we must ask whether the Mission Plan fulfills the purposes contemplated by the Act, and we must conclude that it does not.

The Mission Plan must reflect the Department of Energy's consideration of its responsibilities under the Act and careful planning for implementation of those responsibilities. In accordance with the language of Section 301 (a) and Section 301 (a)(1), the Mission Plan must provide a sufficient informational basis to permit informed technical decisions with respect to siting a repository. In Section 116 of the Act, DOE is required to identify potentially acceptable sites as defined in that section. Section 112 requires the Secretary to nominate five sites from among the identified potential acceptable sites and then, from among the five nominated sites, to recommend three for site characterization. The nomination and recommendation of sites for characterization is to be based on guidelines which are also prepared pursuant to Section 112 of the Act.

According to the law, the guidelines must employ both geologic and non-geologic criteria. These criteria must be applied to scientific, engineering and technical information related to the sites. The Mission Plan does not identify primary scientific and technical information related to the designation of a potentially acceptable site. Neither does the Mission Plan identify such primary information necessary for the nomination of a site or recommendation of a site for site characterization. We believe that this is a fundamental inadequacy of the Mission Plan, in particular, and the Department of Energy's program, in general. The potential result of this approach is that unsuitable or least-suitable sites will be characterized or potentially even recommended for a repository.

In the case of Utah's Davis Canyon, a geologic fault which might serve as a pathway for water, and thus a pathway to the environment for radionuclides, has been inferred from proprietary information obtained by DOE subsequently to the identification of Davis Canyon as a potentially acceptable site. The identification of the Davis Canyon site was based on a pre-Act screening criterion which ruled out areas within two kilometers of such a fault. It appears, therefore, that, had DOE had known of the fault before the identification of the Davis Canyon site as a potentially acceptable site, the two kilometer screening criterion would have ruled out the site in whole or in part.

Similarly, a geologic structure known as the Indian Creek Syncline lies to the northeast of the Davis Canyon site. Private sector exploratory work at a similar structure (the Cane Creek Anticline) strongly suggests that certain hydrologic assumptions related to flow gradients, fractures, and other characteristics which were used in the evaluation of the suitability of Davis Canyon are simply wrong because of the presence of the syncline. Both geologic concerns arise from the uncertainties associated with geoscience generally. This information belies the deferral of virtually all significant geologic testing until site characterization, and indicates the great importance careful analysis of pre-nomination data requirements by the Department of Energy in the Mission Plan. Perhaps more importantly, this information suggests that the pre-Act screening program was technically inadequate, and if the initial screening criteria were valid, that continued consideration of the Davis Canyon site was misguided.

The uncertainties associated with geoscience are also a basis for concern with the site characterization planning process that has been undertaken and is referred to in the Mission Plan. The DOE commitment to overall schedules presents the risk of a necessity to compress subordinate testing schedules to meet the overall deadlines. For example, the fundamental reason for sinking an exploratory shaft is to enable in situ testing of the host rock to identify the ranges of parameters at the repository horizon which are directly relevant to public health and safety and the capability of a site to isolate radionuclides. This is particularly important in salt host rock because of significant unknowns related to salt creep rates, retrievability and shaft sealing technologies. A more detailed discussion of these concepts and their relevance is appended to this statement on Appendix A. If the planned testing schedule is excessively compressed, such a schedule may preclude collection of adequate information related to these phenomena. However, discussions with the Department of Energy suggest that, in fact, the in situ testing schedule is indeed becoming inexorably compressed. To date, the Department of Energy has failed to demonstrate that the compressed schedule would, nonetheless, provide sufficient information to enable adequate characterization of the salt sites and protection of the public health and safety. Furthermore, the Department's performance to date, provides little basis for confidence that the schedule contained in the Mission Plan will be met. The implementation of the Act is characterized by continual schedule slippage. In any event, schedule-based decisions to forego necessary data collection at early stages of the siting process are a sure way to increase the likelihood that the nuclear waste program will collapse.

We have only touched on certain key concerns of the State of Utah with regard to the Mission Plan. To summarize, while there will necessarily be uncertainties concerning technical issues in the repository program due to inherent uncertainties in geo-science, informed decisions must, nonetheless, be made at various stages of the siting program. The Mission Plan must provide for such decisions and, at present, does not.

The Mission Plan must enable the Congress, the states, and other parties to evaluate, at least in general terms, the sufficiency of the Department of Energy's implementation of its responsibilities. The sheer volume of technical data associated with the Nuclear Waste Program necessarily limits geo-technical information which can be reasonably contained in the Mission Plan. In one key area, however, Utah believes that the Department of Energy could have said more. This key area is the subject matter of Part II, Chapter 3 of the Mission Plan concerning financial, political, legal and institutional impediments to program implementation. We feel that the discussion of consultation and cooperation agreement negotiations is incomplete, that the treatment of proprietary information in the Mission Plan is inadequate, that DOE fails to discuss a potentially significant conflict between the mandates of DOE and other federal agencies and that DOE's discussion of litigation is disingenuous, and that significant disputes related to program funds are not addressed.

In Chapter 3, the Department of Energy identifies potential issues with regard to the negotiation of consultation and cooperation agreements. The chapter notes that negotiations have been undertaken with the State of Washington and other parties. DOE fails to note that negotiations have broken down over concerns about state liability for accidents arising from program operations and related concerns with pending and proposed legislation for the reauthorization of the Price-Anderson Act. Liability and compensation issues related to nuclear waste will likely continue to be a sticking point in consultation and cooperation agreement negotiations unless the ambiguities in the current system of compensation under the Price-Anderson Act are clarified. Consequently, the statement that legislation is not necessary at present, is less than circumspect since, at least in the case of State liability issues, legislative action might improve the likelihood of the successful negotiation of a consultation and cooperation agreement.

An additional problem in the negotiation of an agreement arises from the Department of Energy's treatment of proprietary information. As discussed earlier, there is an inferred fault within two kilometers of the Davis Canyon site in the State of Utah. The fault is inferred from proprietary data. As proprietary data, it is subject to visual inspection by the State, but not to physical release. Visual inspection does not afford an opportunity for independent analysis and, consequently, the State is not able to confirm conclusions by the Department of Energy in regard to the fault. The use of proprietary data without meaningful opportunity for State review undermines the basic purposes of consultation and cooperation provisions of the Nuclear Waste Policy Act, which is to promote public confidence. This presents another potential sticking point in consultation and cooperation agreement negotiation process.

The Department of Energy also acknowledges the difficulties in acquiring access to or control of lands as a potential impediment to implementation to the Act. A related matter, which DOE fails to discuss, is the potential conflicting land use mandate by federal agencies which control land to which access may be required for site characterization purposes. There is a high likelihood that site characterization at Davis or Lavendar Canyons in Utah would require drilling within the boundaries of Canyonlands National Park. The National Park Service has already stated that drilling in the Park would be in conflict with both Park management plans and with the enabling legislation which established the Park. This problem is also related to general Department of Energy planning. Disputes between the Department of Energy and other federal agencies concerning access to Park lands for drilling purposes must be recognized as a significant impediment to the progress of the program, should it become focused on Davis or Lavendar Canyon.

In Chapter 3, the Department of Energy also notes that litigation by states and other parties may delay the program, and that litigation is made likely by the 180-day period for petitioning for judicial review contained in Section 119 of the Act. In fact, numerous suits have already been filed by various parties concerning site selection decisions, grant guidelines, and the Section 112 (a) site selection guidelines. These suits are based on conflicts which have not been resolved through consultation and cooperation, and likely could not be resolved through that means due to their basis in different interpretations between the parties of fundamental provisions of the Nuclear Waste Policy Act. The Department of Energy must anticipate other such suits on the basis of conflicts that have already been identified through informal communications between the agency and other parties. Failure to acknowledge such conflicts and the statutory ambiguities giving rise to them is inconsistent with the purpose of the Mission Plan. Such information is, itself, fundamental to Congressional decisions to revisit the Act to rectify ambiguities.

A final impediment to the successful implementation of the failure to internalize certain program costs. These costs include those associated with state reliance on judicial review provisions of the Act and with the role of sites which are nominated for characterization but not characterized. The State's role in the Act is founded upon the importance of public confidence in the Act's implementation. Where the citizens of a state fear that misinterpretation of the requirements of the Act will exact an unrecoverable cost in terms of health, safety, and the environment, the State must strive to assure that the misinterpretation is corrected. The Congress anticipated the consequential resort to judicial review in passing Section 119 of the Act. The cost to the state of pursuing statutory judicial review in furthering public confidence is as much a program cost as the sinking of an exploratory shaft. In managing the nuclear waste fund, however, the Department has chosen to externalize this cost. The Department must apprise the Congress of this cost, and the Congress must consider the fundamental unfairness of imposing the burden of this program cost on state taxpayers.

An additional cost is exacted in those states and localities which contain sites which are nominated but not recommended for site characterization. Presently, the Department intends to hold such sites in "alternate" status. The affected states or localities are left with great uncertainties concerning the allocation of human and physical resources. From these uncertainties will arise conflict. Again, the Department must apprise the Congress of the nature of and potential for such conflict to enable congressional evaluation of the Department's efforts resolve potential disputes arising from these circumstances.

In conclusion, The State of Utah believes that the Mission Plan does not reflect adequate planning and a clear understanding of the Department of Energy's responsibilities under the Nuclear Waste Policy Act. The nuclear waste management program is proceeding on the basis of inadequate information as a result. Furthermore, the plan provides insufficient insight into the nature of the impediments which may arise during the course of program implementation, and does not give Congress information necessary to evaluate the effectiveness of the Department of Energy's implementation of its responsibilities under the Nuclear Waste Policy Act.

APPENDIX A

Potential Problems With an Abbreviated In Situ Testing Program For Salt

prepared by

Jack Wittman, Associate Director

The DOE SRPO indicates that the in situ testing program would absorb the "lost time" from other program delays.

At a June 18, 1985 DOE/NRC management meeting in Columbus, Ohio, a brief description of critical path activities included two figures showing the timing of various SRP activities. The two figures were labeled BASELINE and CHANGES TO BASELINE. The only difference between the two diagrams was in the dates that certain activities were scheduled to occur; the baseline condition assumed that the final environmental assessments would be finished by June of '85, while the revised diagram integrated already known slips in the timing of the release of the final EAs. The revised diagram assumed that the final EAs would be published by August, 1985, an effective two month slip in the baseline case.

In the revised schedule diagrams (and in the Mission Plan), the DOE has determined that slips in early milestones would not affect the "absolute" deadline of accepting wastes by 1998. This assumption has correspondingly lessened the amount of time spent in certain other activities (i.e. schedule compression). Currently all compression would take place in the in situ testing program, shortening the program duration from 11 to 9 months. Given the fact that the final EA's are now scheduled for release in December of 1985, there is reason to believe that target dates will be further revised by four months. An assumption that was substantiated at the SRP management meeting in June. The Salt Office Program Manager stated that if the EAs were not finalized until December of 1985, the in situ testing program would be further truncated to five months. Both the NRC and the States have expressed concern that this may not provide sufficient time to gather adequate thermal-mechanical data stress for the prediction of long-term repository performance parameters.

Some of the most important public health and safety aspects of repository operation are directly related to the reliability of the results of the in situ testing. The Basalt Waste Isolation Project has recognized this relationship; consequently, BWIP's prime contractor, Rockwell International, has been operating a Near Surface Testing Facility at the Hanford Reservation for over five years, gathering data on the thermal/mechanical stress properties of basalt. In situ testing takes on an even greater significance in a salt rock body, in which salt creep rates, retrievability, and shaft sealing technologies can present particular problems in the prediction of long term performance. These technical problems are discussed in greater depth below.

Salt Creep Rate: One of the more important design criteria in a salt repository is the amount of movement that can be expected in the host rock under the thermal and mechanical stresses of the emplaced waste. Tests of the stress-strain behavior of rock salt have been carried out on salt from Avery Island, the Waste Isolation Pilot Project in New Mexico, and borehole core samples from each of the different geohydrologic basins being considered for the first deep geologic repository. Each of these tests has had different objectives, but none of the tests are conclusive with regard to the prediction of long term creep rates.

The Avery Island tests included transient creep and steady state creep experiments with duration of up to seven months. The objective of these tests was to develop empirical models for predicting long-term creep rates under various thermal and mechanical conditions. Even though there are only two identified mechanisms of deformation in pure NaCl rock, small impurities that occur in every potential host rock can change the way the rock behaves:

> "...the micromechanical effects of pre-existing subgrain structure, free dislocations, fluid inclusions, and impurity ions on the rheology of rock salt are still barely understood, as are the effects of changes of these material properties during deformation on structure dependancy for constitutive laws." (ONWI-550, 1984, p.124)

Without in situ tests, therefore, there is no way to make the estimates necessary to predict the response of the rock mass hosting a waste repository during its construction, operation, and post-operational phase (a period of up to 125 years). Without these estimates it will be difficult to adequately assess the performance of the repository or to allocate the performance among the various components of the containment systems. (These are certainly going to be licensing concerns that will have to be worked out between the NRC and DOE.)

The tests have been performed on salt from each of the four salt geohydrologic basins (Vacherie Dome, Richton Dome, the Palo Duro Basin, and the Paradox Basin) to obtain some comparable geomechanical data (ONWI-450, 1983). The results of these tests have illustrated the effect of the above mentioned site specific variables on rock strength and flow characteristics. The authors of this ONWI document also warn against using these data, or the empirical models that were derived from them, to compare the behavior of the different salt bodies beyond the time frames of the tests (six months).

The body of data on and the status of knowledge of salt creep may be best illustrated by the operation of the WIPP facility in New Mexico, where the Department of Energy and its contractors have had to apply the theory of salt creep to an actual repository. The facility was, in fact, designed with preliminary geomechanical data. Although the data and the models were the most advanced in the field, the predicted salt creep has been less than that observed by as much as a factor of four. It appears that the models used to predict short term creep are not only inaccurate; they are not conservative.

Conclusions:

It would appear that the DOE is consciously generating incomparable data bases for the different rock bodies.

At the Hanford Reference Repository Location, three years of data were gathered on the behavior of basalt under thermal and mechanical stresses at the Near Surface Testing Facility. The heater tests have been completed, and the DOE contractors are now beginning an entirely different characterization-phase study. Because of the problem of the lack of transferability of laboratory (or near surface) data to the conditions at depth, the DOE and Rockwell International have every intention of completing a subsurface testing facility to gather the same type of information.

The SRPO has no testing program underway to gather data in situ on a salt host rock.

All of the work so far referenced by the DOE Civilian Waste Branch has comprised laboratory studies of different rock salt. It may become necessary for the DOE to attempt to use data collected at WIPP in order to satisfy the requirements of a reasonable comparison of sites after site characterization. The WIPP heater tests are only now getting underway, and it is questionable whether the temperature-range being used in experiments is representative of the hotter wastes that will be put in the commercial repository. As discussed previously, the variables of interest in an in situ testing program are sensitive to small scale variation in salt properties; hence, data from WIPP would not be transferable to other salt sites.

The DOE appears to be willing to sacrifice the integrity of one of the primary data bases that is to be produced as a result of site characterization without any justification beyond meeting the program schedule.

The small scale, short duration laboratory stress tests that have been performed to date are very basic data collection efforts which in no way substitute for the repository scale, long duration in situ testing required before many important design parameters can be used with confidence (NUREG/CR-3489, 1984).

Senator **Domenici**. I think what we ought to do, if you don't mind, what about the proprietary statement, Mr. Rusche? I hate to—since you stayed, you invited——

Mr. **Rusche**. I wouldn't miss it for anything. I'm not sure what Pat is referring to in an explicit sense. He has access to the data, I believe he said. I understand his comment to mean that he finds it a defect in his ability to analyze the data by not being able to take off some piece of paper with him. He has access to the data, and I would suggest that if there is a deficiency in his ability to analyze it, we'll cure that deficiency by virtue of him having access to the data.

Now, we are, under both legal and statutory constraints, with respect to how we handle proprietary data. We are also under statutory obligation to provide the data and we'll work every way we can to be sure that it's available.

Senator **Domenici**. Thank you very much.

STATEMENT OF GREGG S. LARSON, DIRECTOR, HIGH-LEVEL RADIOACTIVE WASTE PROGRAM, OFFICE OF THE GOVERNOR, STATE OF MINNESOTA

Mr. **Larson**. Mr. Chairman, I'm Gregg Larson, director of the High-Level Radioactive Waste Program for the State of Minnesota. Minnesota is one of the States included in the second repository program, one of 17 States.

I want to thank you for your invitation to testify here today and also want to compliment the subcommittee on their willingness to schedule a hearing on the Department of Energy's mission plan.

My remarks concentrate on the notable lack of confidence that the affected States and tribes have in the Nuclear Waste Program, and I'd like to discuss some of the reasons for that.

Confidence in the program is lacking because DOE continues to adhere to an unrealistic schedule that few believe is achievable. The mission plan reference schedule is based on rosy assumptions that fail to recogize the likelihood of permitting delays in extended in situ testing, the likelihood of a State veto, and the likelihood that NRC licensing review will require the statutory period allotted in the act.

Confidence in the program is lacking because DOE's siting guidelines and the Environmental Protection Agency's radiation protection standards, which should guarantee selection of the safest sites, instead guarantee only that DOE can prolong eligibility of whatever sites suit its purposes, without fear of disqualification.

Confidence in the program is lacking because DOE is unwilling to risk a level of State participation that allows for independent monitoring or testing of disputed DOE procedures and decisions.

Denial of funding for these purposes only raises more doubts regarding the technical quality and credibility of the siting program.

Confidence in the program is lacking because DOE is willing to take shortcuts that it assumes will make repository operation certain by 1998. The most recent example is DOE's intention to make a preliminary determination of suitability in advance of site characterization.

Confidence in the program is lacking because the relationship between the affected States and tribes has not developed as Congress had contemplated. DOE has failed to respond to information requests; program policies have been altered without State consultation; and DOE has opposed funding a second repository affecting Indian tribes.

Confidence in the program is lacking because the methodologies used to apply the siting guidelines are flawed. In the second repository program, States have reviewed and commented on the DOE methodology for selecting 15 to 20 areas for further study in November. DOE's failure to disqualify rivers and lakes from consideration for siting and its failure to address transportation defies both logic and common sense.

An additional methodology concern of the second repository States is related to the DOE use of unspecified qualitative data in the selection of these 15 to 20 areas. This is a troublesome development because we have observed some of the problems encountered by the first repository States in trying to reconstruct the methodology used in the decision process for site nominations.

In previous testimony before Congress, the Director of the DOE program twice stated that there was no certainty that first repository decision process could be replicated again with the same results. In other words, the methodology was dependent on subjective and transient judgments, rather than on systematic analysis of technical data.

The best way for DOE to regain public confidence in the program would be to temporarily halt siting work until such time as a national survey could be undertaken to reexamine potentially suitable geological media.

This is not a new idea, but one that has been suggested previously by other States and agencies before and after passage of the act. By completing a national survey, DOE can shed the undesirable political and technical liabilities of the existing program, take another look at the variety and location of geologic media, and enhance its ability to argue that the sites ultimately selected are the safest possible locations for nuclear waste disposal.

While it may be true that a final consensus can never be reached on the safest sites, a program with that objective would certainly be preferable to the one in place today and would be more likely to produce sites that exceed the minimum criteria for 10,000 years of isolation. It would do more than any other single action to restore the credibility that is essential to this critically important siting program.

Thank you.

Senator DOMENICI. Thank you very much, Mr. Larson.

[The prepared statement of Mr. Larson follows:]

TESTIMONY OF

GREGG S. LARSON
DIRECTOR
HIGH-LEVEL RADIOACTIVE WASTE PROGRAM
STATE OF MINNESOTA

BEFORE

U.S. SENATE
SUBCOMMITTEE ON ENERGY RESEARCH AND DEVELOPMENT
COMMITTEE ON ENERGY AND NATURAL RESOURCES

SEPTEMBER 12, 1985

Mr. Chairman and Members of the Subcommittee:

I am Gregg Larson, Director of the High-Level Radioactive Waste Program for the State of Minnesota. I want to thank you for your invitation to testify here today, and want to compliment the Subcommittee for scheduling a hearing on the progress of the nuclear waste program, the participation of the affected states and tribes, and the Department of Energy's (DOE) Mission Plan.

I represent one of 17 states that are under consideration for the second nuclear waste repository that is projected to be operating by the year 2006. Although I wish to stress that I am speaking only for the State of Minnesota, some of my comments do reflect the views of other second repository states as well.

My remarks concentrate on the notable lack of confidence that the affected states and tribes have in the nuclear waste program. There are a number of reasons for this, based on both process and technical shortcomings.

Confidence in the program is lacking because DOE continues to adhere to an unrealistic time schedule that few believe is achievable. The Mission Plan reference schedule is based on rosy assumptions that fail to recognize the likelihood of permitting delays and extended in-situ testing, the likelihood of a state veto, and the likelihood that NRC licensing review will require the minimum statutory period allotted in the Act. The Mission Plan still focuses on the 1998 waste acceptance date for first repository operation, despite continued slippage of the intermediate milestones set forth in the Act. Especially frustrating to the states is DOE's willingness to let its own internal deadlines slide when necessary, while at the same time denying schedule alterations sought by the states.

Confidence in the program is lacking because the DOE siting guidelines and the Environmental Protection Agency's (EPA) radiation release standards, which should guarantee selection of the safest sites, instead guarantee only that DOE can prolong consideration of whatever sites suit its purposes without fear of disqualification. In the case of the siting guidelines, the result is a vague set of criteria, incapable of discriminating between sites, and nine lawsuits by affected states and interest groups. In the case of the EPA standards, the result is a lack of ALARA requirements (As Low As Reasonably Achievable) and language binding NRC adoption of EPA standards, increased allowable releases to the accessible environment, increased allowable doses to the general public and workers, loosened groundwater protection requirements, and relaxed criteria for variances.

Confidence in the program is lacking because DOE is unwilling to risk a level of state participation that allows for independent state monitoring or testing of disputed DOE procedures or decisions. Instead of welcoming opportunities for separate confirmation of its findings, DOE has attempted to unjustifiably withhold state funding for such activities. Denial of this funding, in the absence of any showing of state interference with, or delay of, DOE activities, only raises more doubts regarding the technical quality and credibility of the siting program.

Confidence in the program is lacking because politics have, or appear to have, affected siting decisions. Campaign statements made by DOE officials, promises of siting immunity for some states, regionality considerations, and limited geologic media screening have led to skepticism about DOE's commitment to a technically sound siting process. In fact, DOE's often stated objective is only to meet the minimum standards necessary for licensibility of a site; this is in contrast to the public desire to see sites chosen that provide the greatest margin of safety for the 10,000 year period of waste isolation. It is difficult to envision DOE swaying a particular host state towards acceptance of a repository if it is unable to argue that the state was selected because it had the safest possible site for isolating waste.

Confidence in thr program is lacking because DOE is willing to take short-cuts that it assumes will help make repository operation possible by 1998. In actuality, shortcuts are likely to add further risk to a siting program that has already been deemed risky by Congress' own Office of Technology Assessment. In the short history of this program, we have seen DOE propose a limited work authorization to allow an early start on construction. NRC objected and the approach was abandoned. DOE also proposed construction of two full scale shafts during site characterization. The NRC again objected, and DOE decided not to include program schedule considerations in setting the size of the exploratory shafts. At the time the NRC was deliberating over its concurrence decision on the siting guidelines, DOE wanted to make its preliminary determination of suitability in advance of site characterization. The NRC again objected, and DOE dropped wording to that effect from the siting guidelines. Now, DOE is arguing that there was no NRC-DOE agreement on the timing of the preliminary determination.

The current debate over the timing of the preliminary determination goes to the very heart of our dissatisfaction with the program. It exemplifies DOE's failure to recognize the importance of a logical progression of actions that will lead to final site selection. In our testimony before the NRC on September 6, we noted the importance of maintaining viable alternatives at the end of the characterization process to ensure that the NRC is not presented with a fait accompli at the time DOE submits the constructuion authorization application, that a back-up exists in the event that the NRC rejects the chosen site, and that the requirements of the National Environmental Policy Act regarding reasonable alternatives are met. Moreover, we noted that recognition that the determination had to be made at the end of site characterization was a powerful incentive for DOE to recommend the best possible sites for characterization.

Equally important is the need for DOE to maintain viable geologic media options for the second repository program. In limiting the current second repository program to granite, DOE has put all of its eggs in one basket. The Mission Plan, however, frequently mentions the possibility of including up to two other host media from the first repository program at the time of second repository nominations, as provided for in the Act. If three sites survive characterization, the two finalists not selected would provide the needed media options and characterization would only be necessary for the granite site.

Confidence in the program is lacking because the relationship between the affected states and tribes and DOE has not developed as Congress had contemplated. DOE has failed to provide timely replies to state information requests. The most timely response to letters from our Governor arrived nearly two months after being sent, and then only acknowledged receipt of the Governor's letter. Our efforts to review a proposed U.S. expenditure of $30 million for Canadian research at sites north of the Minnesota border have been unsuccessful. Freedom of Information Act requests that were filed by Minnesota in April still remain unfilled.

Long-standing program policies have been changed without state consultation. An excellent example was the recent alteration of the two year-old DOE policy that designation of potentially acceptable sites would accompany the final area recommendation report for the second repository program. The fact that DOE is now considering release of the final area recommendation report without designating potentially acceptable sites was buried in a final site screening methodology report without ever calling it to the attention of the states.

The previous DOE position on the funding of Indian tribes affected by the second repository program provides another illustration of inadequate consultation and cooperation. DOE has characterized tribal proposals as "premature," even though this position is inconsistent with the decision to fund second repository states. Minnesota Indian tribes now have a consolidated funding proposal before DOE that would enable their participation in the siting program in the same manner as the states. (A copy of the funding proposal has been provided to the Subcommittee.) In Minnesota, there are eight reservations that include land underlain by granite rock bodies being considered by DOE. The participation of the Yakima Indians in the first repository program has clearly demonstrated that the tribes are fully capable of technical interaction with DOE. Because the consultation and cooperation provisions of the Act apply equally to states and tribes, there is no reasonable or legal basis for establishing a different test or set of criteria for tribal funding, thereby depriving tribes of the status that DOE has extended to the states.

Confidence in the program is lacking because the methodologies used to apply the siting guidelines are flawed. In the second repository program, states have reviewed and commented on DOE's methodology for screening 220 rock bodies and selecting 15-20 areas this November for further study. We had some good suggestions that DOE went ahead and adopted. But their failure to properly address surface water bodies and transportation defies both logic and common sense.

Second repository states have repeatedly requested disqualification of surface water bodies because they were obviously unsuitable for siting 400 acres or more of above-ground repository facilities. The disqualification would be similar to that extended to federal and state protected lands, and could be based on the flooding and transportation provisions of the siting guidelines. Such disqualification would further direct DOE attention toward remaining areas that lack potentially limiting features, and there are thousands of square miles of granite rock bodies that are not permanently flooded. DOE, however, still refuses to disqualify surface water bodies.

Although DOE has suddenly found religion in its desire to stress the transportation benefits of an MRS, it will not include any measure of transportation in its comparative analysis of granite in the second repository states. Proximity to major rail and highway routes was a selection factor that was first introduced by DOE, but subsequently dropped after DOE decided that proximity measures would be an oversimplification and there was no consistent data base for 17 states. We strongly disagree with these arguments because public transportation agencies do have the necessary data readily available, and 13 other DOE selection factors employ similar proximity measures.

An additional methodology concern of the second repository states is related to the use of undefined qualitative and descriptive literature in DOE's selection of the 15-20 areas for further study. What DOE originally presented as a straight forward and mechanical method for analysis of data for 16 known selection factors, now includes the application of additional and unspecified data at DOE's discretion. This is a troublesome development because we have witnessed some of the problems encountered by the first repository states in trying to reconstruct the methodology used in the decision process for site nominations. In testimony before the House Subcommittee on Energy Conservation and Power on August 1, the Director of the Office of Civilian Radioactive Waste Management twice stated that there was no certainty that the first repository decision process could be replicated again with the same results. In other words, it was an admission that the methodology is dependent on subjective and transient judgments rather than a systematic analysis of technical data.

Because the second repository siting is at an early stage, and because much of DOE's attention is currently focused on first repository siting, the tendency is to assume that things are running smoothly in the granite program. That is certainly the impression that DOE would like to leave with the Subcommittee. But our appraisal leads us to the conclusion that, in addition to the common process problems that affect both programs, the mistakes that are characteristic of the first repository program are being repeated in the second as well.

The best way for DOE to regain public confidence in the nuclear waste program would be to temporarily halt siting work until such time as a national survey could be undertaken to examine potentially suitable geologic media. This is not a new idea, but one that has been suggested previously by other states and federal agencies before and after passage of the Act. By completing a national survey, DOE can shed the undesirable political and technical aspects of the existing program, take another look at the variety and location of various geologic media, and enhance its ability to argue that the sites ultimately selected are the safest possible locations for nuclear waste disposal. It also would provide DOE with a much needed opportunity to reassess the current status of disposal technology development.

While it may be true that a final consensus can never be reached on the "safest" site, a program with that objective would certainly be preferable to the one in place today and would be much more likely to produce sites that exceed the minimum criteria for 10,000 years of isolation. It would do more than any other single action to restore credibility in the siting program.

Thank you.

Senator DOMENICI. Mr. Word, commissioner, Department of Health and Environment, State of Tennessee.

STATEMENT OF JAMES E. WORD, COMMISSIONER, DEPARTMENT OF HEALTH AND ENVIRONMENT, STATE OF TENNESSEE

Mr. WORD. Thank you, Mr. Chairman. As you indicated, my name is Jim Word. I'm the commissioner of the Department of Health and Environment in the State of Tennessee. I very much appreciate the opportunity to be here today and speak to you on behalf of Governor Alexander.

As you have heard earlier in the day, we, in Tennessee, in approximately five of the executive agencies of the State government, have been involved now for some months in the discussions with the Department of Energy about MRS and its siting in Tennessee.

For the record, since April of this year, Ben Rusche, Roger Hille, Joe Legrone, and all the folks in DOE have done a very good job of being very honest, very straightforward, very available, friendly, everything that anybody would expect with those of us in Tennessee who have been concerned about this issue.

In short, the messengers are excellent; the message, however, is complicated, has very important ramifications for the present and the future of Tennessee.

I've submitted for your consideration, approximately six pages of testimony which go in depth into some of the concerns we have and the method that we'll be using to assess MRS. I will not go into detail at that time. However, there are several comments that I would like to make.

First of all, the committee should know that the Governor and the rest of us in the executive branch who work for him, have not today decided our position on MRS. There was a lot of discussion about what people think will be Tennessee's position, but the executive of our State, Governor Alexander, has not concluded to date what his position will be on that issue.

We began studying the matter in late May, and we intend to complete our analysis of it sometime in mid-December. Once we've completed that analysis, we fully expect the Governor will be ready in January to present his impression to Congress of when DOE goes forward to discuss that matter.

Second, the study that we will be doing in Tennessee, and we'll be doing it with Tennessee and national experts, will look at four areas. Those four areas are basically areas that have been touched upon here today. One is the area of safety, transportation, environmental impact, what I refer to as technology-based issues.

The second is the issue of economics. We will study intensively the economics that exist at the Oak Ridge and Roan County area, as well as to the State of Tennessee.

The third thing we will assess is community attitudes. It's awfully important what Tennesseeans think about MRS before elected officials decide their positions and we have very good ways of assessing what community attitudes are.

The fourth is that we will assess the role of the State, what the continued role of the State should be in this matter. Those are basically the content areas that we'll be looking at.

The third point is that there are some areas of concern that have been identified and conveyed to DOE regarding the MRS. Some of these concerns have already been touched on, but let me just mention a few of these. One is the point that Senator Gore made about the timing of MRS and the deep repository. We are very concerned that there be a linking between MRS and the deep repository, so that in fact if there is a decision to accept a repository, that we don't get left with the waste in the Oak Ridge area.

Second, we're concerned about limiting capacity of MRS. We think that's an effective way of dealing with the first issue of making sure that it gets to a deep geological repository.

The third is that we're also concerned about some of the methods used for environmental impact statements and the fact that EIS would be after the authorization. That's a matter that we have conveyed to Ben Rusche and have been in some discussion with him about.

The fourth is a concern simply about the amount of time that we have to complete our process. We would very much like for the Department of Energy to complete their process of reviewing and producing documents on DOE, and that we would have 90 days from that time to complete our analysis. We realize that that may be a little unrealistic, but we certainly want some time beyond the point that they finish producing documents in order to complete our analysis.

I realize that they're doing the best they can, but that's a very important issue with us if we're going to be, in fact, ready in January.

The fifth issue is the issue of the credibility of the Department of Energy. We want assurances that the Department of Energy will—and they have in the last several years under the leadership of Joe Legrone in Oak Ridge—continued to improve some of the environmental problems that they have created in Oak Ridge. We want a continued commitment on the part of the Department of Energy to see that that reservation is environmentally cleaned up to the extent that we, as Tennesseeans, want to see it cleaned up.

So we want the credibility of DOES to be considered, and we want continued action on the Oak Ridge reservation.

Finally, the attorney general of Tennessee, Mike Cody, as most of you know, has filed a lawsuit against the Department of Energy, indicating that they have violated the Nuclear Waste Policy Act. The matter is being litigated now. For the record, the reason that the executive of our State chose to identify with that, simply stated, is that we didn't want to spend $1.4 million, 6 months evaluating this proposal, only to find that there had been in fact a procedural violation, and that the siting plan was legally flawed. So that is no indication that we are in any way against the proposal. It is an attempt to clarify this matter so that time and money will not be wasted.

In closing, we, in Tennessee, at Oak Ridge and other places, have had national missions before and we've had them in the past, and we would look forward to them in the future. We think it is very important if we choose this as part of our national mission, that we have the opportunity to have all the information that's available, to continue to have support and cooperation of the Department of

Energy, so that we, as Tennesseeans, can decide for ourselves whether MRS is one of those cases where we want another national mission.

Thank you.

Senator DOMENICI. Thank you very much.

[The prepared statement of Mr. Word follows:]

Tennessee is currently engaged in an intensive evaluation of the Department of Energy's proposal to build a monitored retreivable storage (MRS) facility at one of three sites in our state. The state does not yet have a position. We do have a process and we are conducting an objective analysis. We have approached the MRS proposal with an open mind and have established open communications with the Department of Energy staff, with the legislature and with the citizens of Tennessee. We have received a grant from the Department of Energy to assist our analysis.

Under the leadership of the Governor's Safe Growth Cabinet Council, and with the assistance of consultants and a technical advisory panel, we are performing an independent review of the need and feasibility of an MRS. As a second element of our work, we are conducting a full impact analysis of an MRS--from Tennessee's perspective. We intend to define the benefits, risks and costs to Tennesseans. We want to insure that if the state accepts an MRS, it is fully compensated for any additional costs and risks. Another work element will identify the state's legal options. We are also carrying out a wide public consultation process to identify public fears and determine community attitudes. All of this information will be considered by the Governor as they define the state's position.

Some serious concerns have emerged from our study process. Most of these concerns have been communicated to the leadership of the Department of Energy's Office of Civilian Radioactive Waste Management in letters from me or my staff (dated July 2, 1985, July 30, 1985, August 8, 1985, and August 9, 1985). To date, the Department of Energy has responded only to my letter of July 2, and has made some modification to its process in response to that letter. I should like to describe our concerns briefly.

1. Because of the technical and political difficulties that may be encountered in siting a geologic repository, the state of Tennessee is concerned that an MRS will become a repository by default.

2. The State of Tennessee is concerned with the Department of Energy's proposed Environmental Assessment process--particularly the disjunction of the Need and Feasibility Analysis of system alternatives from the Environmental Assessment of site specific proposals. The Environmental Assessment to be prepared by the Department of Energy and submitted to the Congress in January will not assess the same set of systems alternatives described by the Need and Feasibility document. Instead, the Environmental Assessment will describe six variants of the integrated MRS alternative. This mismatch makes a meaningful comparison of overall system impacts and environmental consequences difficult. We are also concerned that the Department does not include waste transportation corridors as part of the affected environment.

We were concerned that the two sets of data would appear in separate publications; however, in response to our letter of July 2, the DOE has agreed to combine the Need and Feasibility Environmental Assessment reports into a single document.

The state is convinced that the preparation of a partial Environmental Impact Statement after authorization and site designation by the Congress thwarts the purpose of an environmental impact statement as a full disclosure document for decision-making. There apears to be a little likelihood that unfavorable findings in an abridged EIS would reverse a decision to build an MRS in Tennessee.

The state is concerned about the timely availability of key information and our access to draft documents. Because of the tight time frame, we believe that our only opportunity to influence these DOE decisions is to participate actively in their final preparation and revision. We are now in mid-September, and have not yet received certain crucial information needed to evaluate the DOE proposal.

The State of Tennessee is concerned that it will not have adequate time to review the final documents, setting forth the MRS proposal. According to the Department of Energy timetable, it appears that some of these documents will not be available to us until mid November or early December 1985. This timetable will not allow our staff and consultants sufficient time to review the final proposal before the January 15, 1986 submittal date. In my letter of August 9, we have requested that the State of Tennessee receive copies of the final documents at least 90 days before the date that they are submitted to the Congress. This schedule would enable us to review them thoroughly, share them with interested citizens, and allow the Governor to make an informed decision that can be technically supported.

The State of Tennessee continues to be concerned about the credibility of the Department of Energy's waste management commitment and capability. The Department's past record at Oak Ridge is not good, even though good faith efforts to correct some of the problems created in Tennessee by past releases of heavy metals and uranium into the environment have been identified.

Finally, the State of Tennessee has serious reservations about the site selection process employed by the Department of Energy. The Tennessee Attorney General has advised the Governor that, in his opinion, the Department of Energy failed to comply with the requirements of the Nuclear Waste Policy Act. The Attorney General has filed a suit in the U.S. District Court in Nashville challenging that process, and asking the Department not to rely upon the product of that process (DOE/RW0023).

During the site selection process, there was little or no consultation with the State of Tennessee. We are concerned that too much emphasis was placed upon the reduction of transportation impacts, and federal ownership of land; that the Department relied upon questionable site-specific data; that the selection criteria were not weighed in an objective way; and that the Department did not apply the selection criteria fairly and uniformly.

We in Tennessee had hoped that the publication of the Mission plan might help us resolve some of our uncertainties. It has not provided us with that reassurance: the plan contains many inconsistencies and ambiguities. For example:

- What kinds of wastes will be handled? The "short list" of materials--spent fuel and high level commercial wastes from West Valley--has been expanded in the Mission Plan to include high level defense wastes, other high level wastes which NCR determines should be isolated (not yet defined).

- How much waste will come to Tennessee? DOE has verbally agreed to limit the storage capacity at an MRS to 15,000 MTU. However other DOE documents state that the design could be expanded to accommodate additional wastes - as needed - should the siting and construction of a repository be significantly delayed or cancelled. The site selection criteria eliminated sites smaller than 1100 acres--the land required to accommodate 70,000 MTU. The Mission Plan is ambiguous--it only states that a capacity of 15,000 MTU would meet system requirements, but makes no formal commitment to limit the design to that level.

- How long will an MRS operate? DOE's statements have been ambiguous. They range from an estimated plant life of 25 years, through a statement that DOE will seek an NRC license of 40 years, renewable in 20 year increments, to an openended ". . . . as long as necessary."

- The role of MRS in a waste managment system is undefined. The Mission Plan clearly prefers an integrated MRS, but retains full "flexibility." The Mission Plan clearly describes the role of an MRS in serving the first repository, but it makes no commitment about the relation of an MRS to a second repository.

The Mission Plan does confirm our concerns about the tentative and uncertain state-of-the-art of some of the waste management technologies upon which the DOE relies. The Mission Plan discusses its research and development efforts for rod consolidation technology, dry storage, dry hot-cell rod consolidation, cask design, and transportation system configuration. These issues could affect the ultimate need and feasibility of the MRS; for example, cask design decisions could affect MRS siting if as DOE has claimed, the purpose of MRS is to reduce transportation of wastes. Indeed, the entire transportation system--routes, shipment mode, equipment, amounts of waste to be transported, handling, risks and system management--remains to be defined.

The State of Tennessee asks Congress to recognize our unique position--host of all three alternative sites for an MRS. We are under extreme pressure. In a compressed time frame we must collect information, analyze it, evaluate DOE's conclusions and provide sound information to the Governor which will assist him to make a decision based on good science, competent technical review, accurate economic analysis and informed public attitudes. We hope that in the next few months, that some of our concerns will be addressed by the Department of Energy as they complete their proposal. We hope that the consultation and cooperation between DOE and the State of Tennessee will be expanded from an "information delivery" mode to a true dialogue. Only through full participation by the state, can DOE design a national waste system which can provide necessary protection to Tennessee's citizens, environment and economy.

The attachments to this complaint are too voluminous for general distribution. The attachment containing the most information, the affidavit of Ben Smith, is included. Other attachments are available upon request by contacting:

Wanda J. Barker
Tennessee Department of Health
and Environment
344 Cordell Hull Building
Nashville, Tennessee 37219-5402
615/741-3111

AFFIDAVIT OF BEN SMITH

I, Ben Smith, make oath in due form of law, that I am a citizen and resident of Williamson Countv, Tennessee and am employed by the State of Tennessee as Executive Director of the Staff to the Safe Growth Cabinet Council. This Council was created by Governor Lamar Alexander in 1981. The Council consists of the following individuals:

James E. Word, Commissioner, Tennessee Department of Health and Environment.

Charles A. Howell, Commissioner, Tennessee Department of Conservation.

William H. Walker, III, Commissioner, Tennessee Department of Agriculture.

Robert E. Farris, Commissioner, Tennessee Department of Transportation.

William H. Long, Commissioner, Tennessee Department of Economic and Community Development.

Gary T. Myers, Executive Director, Tennessee Wildlife Resources Agency.

The purpose of the Safe Growth Cabinet Council is to develop policies and programs to ensure the quality of the environment is protected as the State undergoes economic development.

On April 26, 1985, the Secretary of the United States Department of Energy formally stated his intent to seek congressional authorization to construct a high-level radioactive waste storage facility, known as a Monitored Retrievable Storage (MRS) facility, in one of three locations in Tennessee. The Secretary further stated his desire to establish a mechanism to inform Tennessee officials and citizens of the proposal and to receive their comments.

Governor Alexander directed that the Safe Growth Cabinet Council coordinate this activity with the Secretary of the Department of Energy. The Governor also asked the Safe Growth Cabinet Council to make a report to him prior to the Secretary presenting a MRS proposal to Congress. It is the intent of the Governor to have the Council's evaluation of the MRS proposal prior to expressing an official position on the proposal. In order to expedite the Governor's directive, the Council has assembled a group of State officials with relevant expertise as well as appointing a Technical Advisory Panel. This panel includes experts outside of Tennessee State government. These individuals are currently reviewing the information and data provided by the Department of Energy relative to the MRS proposal.

One matter under review by State officials and these consultants is a study which argues the suitability of a MRS at one of three Tennessee locations. The study is reported in an official Department publication entitled "Screening and Identification Of Sites For A Proposed Monitored Retrievable Storage Facility", DOE/RW 0023, April, 1985. This study is essentially a summary of two other more extensive studies prepared for the Department of Energy by several private concerns. The first is entitled "Siting Of An MRS Facility: Identification Of A Geographic Region That Reduces Transportation Requirements", April, 1985 and the second is entitled "Monitored Retrievable Storage Facility Site Screening and Evaluation Report", May, 1985. The latter study is a multi-volume report consisting of approximately 1,500 pages and evaluates eleven sites, including three in Tennessee, for their suitability as an MRS site. Department of Energy officials have advised Tennessee officials that this siting study is final and not subject to any material change.

The State officials and consultants who have reviewed the above-referenced documents inform me that they have very serious reservations as to their content. For example, they have identified the following:

> 1. The study considered eleven potential sites in six states for a MRS. It identified three of these sites, all in Tennessee, as the most suitable for a MRS. The study, however, states no standard or other objective criteria by which the three Tennessee sites were singled out from the other locations. It appears that the choice of the Tennessee sites was a policy decision made by officials of the Department of Energy. An appropriate siting study of this nature should be based primarily on objective criteria.
>
> 2. The study made no mention of possible health effects on residents of areas adjacent to the proposed MRS

sites. This is particularly troublesome with respect to the Oak Ridge and Clinch River sites. Activities of the Department of Energy and its predecessor agencies in this area over the last forty years have resulted in massive releases of Mercury, Uranium, and other non-radioactive wastes into the environment. The health effects of these releases have never been studied. It would seem encumbent on the Department of Energy to at least address the question of the health effects of these releases prior to siting another activity in the same area which likewise raises serious questions as to health effects.

3. The geological evaluations of the proposed MRS locations in Tennessee are inadequate. For instance, the geological evaluation of the proposed Oak Ridge site is not based on data from that site. The data used is from an adjacent land site. Also, there is no evaluation of the geological ramifications should the MRS be pressed into service as a long-term storage facility as opposed to a temporary holding facility. This could happen if construction of the final repository site is indefinitely delayed or not constructed at all.

FURTHER, THE AFFIANT SAITH NOT.

Ben Smith

BEN SMITH

STATE OF TENNESSEE]
COUNTY OF DAVIDSON]

Sworn to and subscribed before me on this the 19th day of August, 1985.

Teresa A. Sharpe

NOTARY PUBLIC

My Commission Expires: My Commission Expires JULY 18, 1987

IN THE UNITED STATES DISTRICT COURT
FOR THE MIDDLE DISTRICT OF TENNESSEE
AT NASHVILLE

FILED
AUG 20 1985
CLERK
BY ______
DEPUTY CLERK

STATE OF TENNESSEE,

Plaintiff,

VS.

JOHN HERRINGTON, Secretary of the UNITED STATES DEPARTMENT OF ENERGY,

Defendant.

No. 3 85 0959

JUDGE WISEMAN

COMPLAINT FOR DECLARATORY JUDGMENT AND INJUNCTIVE RELIEF

INTRODUCTION

This Complaint represents a request by the State of Tennessee, by and through the Office of the Attorney General for the State of Tennessee, for declaratory judgment and injunctive relief or, in the alternative, for a Writ of Mandamus to compel the Secretary of the United States Department of Energy, John Herrington, to comply with certain provisions of the "Nuclear Waste Policy Act of 1982", P.L. 97-425, 42 U.S.C. § 10101 _et_ _seq_. Specifically, it is alleged that the Secretary proposes to request authority from Congress in January of 1986 to construct a "Monitored Retrievable Storage" facility or "MRS" at one of three locations in Tennessee. This facility, tentatively authorized by Congress under the Nuclear Waste Policy Act, will process and store indefinitely high-level radioactive wastes from nuclear power plants around the country. In developing this proposal, the Secretary conducted a massive study regarding, inter alia, the suitability of three Tennessee locations for a MRS. This study was done in a process internal to the Department of Energy and without any involvement of the State of Tennessee. As such, the State of Tennessee respectfully submits that the study was conducted in violation of 42 U.S.C. § 10137(b) of the Nuclear Waste Policy Act. That section specifically requires the Department of Energy to "consult" and "cooperate" with Tennessee in conducting any study to determine the suitability of these Tennessee locations for a MRS. Accordingly, the State of Tennessee requests that the Secretary be enjoined from presenting to Congress any proposal for a MRS in Tennessee predicated upon the study conducted in violation of 42 U.S.C. § 10137(b).

PARTIES

1. The plaintiff is the sovereign State of Tennessee which brings this action by and through the Office

of the Attorney General for the State of Tennessee. Service upon the State of Tennessee can be effectuated through the Office of the Attorney General, 450 James Robertson Parkway, Nashville, Tennessee, 37219-5025.

2. The defendant is John Herrington, Secretary of the United States Department of Energy (hereinafter "Secretary"). The Department of Energy (hereinafter "DOE") is a Department within the Executive Branch of the United States Government.

JURISDICTION AND VENUE

3. This Court has jurisdiction under 28 U.S.C. § 1331 to adjudicate the State of Tennessee's claim for declaratory judgment and injunctive relief pursuant to 28 U.S.C. § 2201 and § 2202. Jurisdiction to consider the State of Tennessee's alternative request for a Writ of Mandamus is predicated upon 28 U.S.C. § 1361.

4. Venue is appropriate in the United States District Court for the Middle District of Tennessee under 28 U.S.C. § 1391(e) and 28 U.S.C. § 1361.

Nuclear Waste Policy Act Of 1983

5. The "Nuclear Waste Policy Act of 1982," P.L. 97-425, 42 U.S.C. § 10101 et seq., (hereinafter "Act")

represents a comprehensive scheme developed by Congress to deal with the disposal and storage of high level radioactive waste and spent nuclear fuel generated by civilian nuclear reactors. See 42 U.S.C. § 10131(a), § 10151(a) and § 10161(a). The Act is to be administered by the "Office of Civilian Radioactive Waste Management" of DOE created by 42 U.S.C. § 10224. The cost of implementing the Act is to be paid from the "Nuclear Waste Fund" funded by fees assessed the generators of the waste to be stored pursuant to the Act. 42 U.S.C. § 10222.

6. The heart of the Act is "Subchapter I" which requires DOE to construct a "permanent deep geological disposal" facility or repository for high level radioactive waste and spent nuclear fuel. 42 U.S.C. § 10131(b) and § 10101(18). In addition to being required to establish such a permanent repository, DOE is authorized to explore the feasibility of establishing two other types of facilities. One is a system of "interim storage facilities" to temporarily store high level radioactive waste and spent nuclear fuel at current reactor sites and/or at facilities presently owned by the federal government. 42 U.S.C. § 10151.

7. The second option to be explored by DOE is one or more "Monitored Retrievable Storage" (MRS) facilities.

The federal code provisions applicable to a MRS are confined to one section, 42 U.S.C. § 10161. Subsection (b)(1) of that section describes the purpose of a MRS as follows:

> (A) to accommodate spent nuclear fuel and high-level radioactive waste resulting from civilian nuclear activity.
>
> (B) to permit continuous monitoring, management, and maintenance of such spent fuel and waste for the foreseeable future;
>
> (C) to provide for the ready retrieval of such spent fuel and waste for further processing or disposal; and
>
> (D) to safely store such spent fuel and waste as long as may be necessary by maintaining such facility through appropriate means, including any required replacement of such facility. (Emphasis supplied).

42 U.S.C. § 10161(b)(1).

8. Of considerable significance to this case is subsection (h) of § 10161 which provides in full as follows:

> Any facility authorized pursuant to this section shall be subject to the provisions of sections 10135, 10136(a), 10136(b), 10136(d), 10137, and 10138 of this title. For purposes of carrying out the provisions of this subsection, any reference in sections 10135 through 10138 of this title to a repository shall be considered to refer to a monitored retrievable storage facility. (Emphasis supplied).

The sections cited in the above-quoted provision, i.e., §§ 10135, 10136(a), 10136(b), 10136(d), 10137, and 10138, are _on_ _their_ _face_ directly applicable to the "final repository" site. By virtue of § 10161(h), however, they are incorporated by reference into the MRS law and thus apply to MRS facilities. The process designed by Congress to be followed by the Secretary in developing a MRS unfolds from a careful reading of the provisions set forth in § 10161 _and the provisions incorporated therein by reference under subsection (h)_.

9. The first step of that process requires the Secretary, within 90 days of the effective date of the Act, January 9, 1983, to "identify" states with one or more potentially acceptable sites for a MRS facility. 42 U.S.C. § 10136(a). Within 90 days of identifying such sites, the Secretary is required to notify the Governor and Legislature of the State wherein the identified site is located. _Id_. Should the Secretary proceed further and perform "any study of an area within a State" so identified to determine its suitability for a MRS, the Secretary:

> _shall consult and cooperate with the Governor and legislature of such State_. . . to resolve the concerns of such State. . . regarding the public health and safety, environmental, and economic impacts of any such [MRS]. 42 U.S.C. § 10137(b).

The State of Tennessee respectfully submits that the Secretary has failed to timely comply with the provisions of

§ 10136(a) with regard to notification of Tennessee and the Secretary has totally ignored the provisions of § 10137(b). As more fully set forth below, the Secretary's failure to follow § 10137(b) renders his current proposal for a MRS in Tennessee inoperative.

10. 42 U.S.C. § 10137(c) requires the Secretary to attempt, at the request of an affected state, to negotiate toward a binding written agreement as to how the consultation and cooperation under § 10137(b) will be carried out. The agreement could include procedures:

> (1) by which such State. . . may study, determine, comment on, and make recommendations with regard to the possible public health and safety, environmental, social, and economic impacts of any such [MRS];
>
> * * *
>
> (11) for resolving of objections of a State. . . at any stage of the planning, siting, development, construction, operation or closure of such facility within such State through negotiation, arbitration, or other appropriate mechanisms. Id.

This provision does not mandate that the Secretary and State enter into an agreement but requires the Secretary to enter into good faith "negotiation" upon request of an effected state to determine if such an agreement can be worked out. The Act further encourages the Secretary to negotiate such agreements within 6 months of a request for one by an affected state.

11. In any event, 42 U.S.C. § 10161(b)(1) requires that the Secretary on or before June 1, 1985:

> . . . shall complete a detailed study of the need for and feasibility of, and submit to the Congress a proposal for, the construction of one or more monitored retrievable storage facilities for high-level radioactive waste and spent nuclear fuel.

The proposal required to be submitted to Congress, if a MRS is deemed feasible by the Secretary, must be a working and operational one. For instance, 42 U.S.C. § 10161(b)(2)(C) requires that the proposal shall include:

> . . . site specific designs, specifications, and cost estimates sufficient to (i) solicit bids for the construction of the first such facility; (ii) support congressional authorization of the construction of such facility; and (iii) enable completion and operation of such facility as soon as practicable following congressional authorization of such facility . . . .

42 U.S.C. § 10161(b)(3) and (4) further require that the proposal include comments from the Nuclear Regulatory Commission and the Environmental Protection Agency along with "3 alternative sites and at least 5 alternative combinations of such proposed sites and facility designs." No MRS may,

however, be constructed in a state which is undergoing site characterization as a final "repository" under 42 U.S.C. § 10132. See 42 U.S.C. § 10161(g).

12. Under 42 U.S.C. § 10161(c), the Secretary, in making his proposal to Congress, is exempt from preparing an environmental impact statement under the "National Environmental Policy Act of 1969," 42 U.S.C. § 4332(2)(C). Rather the Secretary is required only to perform an "environmental assessment" under regulations promulgated by him implementing the National Environmental Policy Act of 1969.

13. Once the Secretary sumbits an appropriate proposal for a MRS to Congress, the Act requires that it (1) survive a state "disapproval" process and (2) be specifically authorized by law. Unless both of these statutory requirements are met, the Secretary's proposal can go no further.

14. With respect to the first requirement, 42 U.S.C. § 10135 and § 10136(b) provide that the affected state be given an opportunity to "disapprove" the Secretary's proposed MRS site. Under Section 10136(b), one of three state entities can "disapprove" the Secretary's proposed site for a MRS within sixty days of the proposal being submitted to Congress. These three persons or entities are: (1) the governor of the state; (2) the state

legislature; or (3) some other entity or person so designated by state law in lieu of the governor or legislature. See 42 U.S.C. § 10136(b)(1). In the event a state issues a notice of disapproval, then Congress has ninety days to overrule the disapproval by resolution of both the House and Senate. See 42 U.S.C. § 10135(c), (d) and (e). If the site selected by the Secretary is not challenged by the affected state or survives the disapproval process, the MRS proposal itself must be approved by congressional enactment. 42 U.S.C. § 10161(c)(2), 42 U.S.C. § 10161(b)(1), and 42 U.S.C. § 10161(b)(2)(C).

15. If the Secretary's proposed MRS receives the necessary authorization by Congress, two further steps are required before the facility can be constructed. First, under 42 U.S.C. § 10161(c)(2), the Secretary must prepare an environmental impact statement in accordance with the "National Environmental Policy Act of 1969", 42 U.S.C. § 4321 et seq. The statement, however, need not consider the need for the MRS. See U.S.C. § 10161(c)(2). Second, the MRS must be licensed by the Nuclear Regulatory Commission, 42 U.S.C. § 10161(d). Finally, should Congress authorize construction of a MRS then the Secretary must make annual impact aid payments " . . . to appropriate units of general local government in order to mitigate any social or economic impacts resulting from the construction and subsequent operation of a [MRS]." 42 U.S.C. § 10161(f).

FACTS GIVING RISE TO THIS LAWSUIT

16. On April 25, 1985, Ben C. Rusche, Director of the Office of Civilian Radioactive Waste Management of DOE, formally notified Governor Lamar Alexander of the Department's intent to ask Congress in January of 1986 to authorize construction of a MRS in Tennessee at the former Clinch River Breeder Reactor site in Roane County. (A copy of Mr. Rusche's letter is set forth as "Exhibit A" in the compilation styled "Exhibits In Support Of Complaint For Declaratory Judgment And Injunctive Relief" filed with this Petition). Prior to this notice, neither the Governor nor any other Tennessee official was formally notified in any form or fashion that the Secretary was considering Tennessee for a MRS.

17. The proposed MRS is a one billion dollar permanent, multi-structure facility which will be located on a 1,100-acre site. According to DOE's timetable, the facility will be operational by 1998. DOE's proposal calls for shipment by truck and train to the MRS of spent nuclear fuel rods now being stored at some 80 nuclear power plants around the country. Once at the MRS, the fuel rods will be unpackaged from their shipping canisters, combined with rods from other power plants, and placed in large casks. The casks will then be stored indefinitely at the MRS for even-

tual shipment to the "final repository" site, if and when that facility is constructed. Locations for the final repository are being considered in Mississippi, Nevada, Texas, Washington, and Utah.

18. In addition to the notice to Governor Alexander, DOE announced its MRS proposal in the Federal Register. 50 Fed.Reg. 16535 (April 26, 1985). (Exhibit B). The Federal Register announcement also contained notice of several major studies either completed by DOE or in progress relative to the Tennessee MRS. One study is entitled The Need For And Feasibility Of Monitored Retrievable Storage -- A Preliminary Analysis, DOE/RW 0022, April, 1985. (Exhibit C). It sets forth a justification for the "concept" of developing a MRS to be used in conjunction with the final repository site. As its name indicates, this study is "preliminary" to a final needs and feasibility study to be presented to Congress. It makes no reference to an actual location for a MRS. The Federal Register noted where a copy of the preliminary study could be obtained and solicited public comment thereon. Any such comments, however, were to be presented to DOE no later than July 1, 1985, or 65 days from the Federal Register notice.

19. The April 26, 1985 Federal Register announcement also stated that DOE was in the process of preparing

an "environmental assessment" relative to locating a MRS in Tennessee. This assessment is required by 42 U.S.C. § 10161 to be submitted with the MRS proposal to Congress. No preliminary draft of this assessment has been made available by DOE. DOE did, however, solicit public comment on the assessment which comments were to be filed no later than July 1, 1985. 50 Fed.Reg. 16537 (April 26, 1985).

20. In addition to the preliminary needs and feasibility study and the environmental assessment now in progress, DOE revealed a third study in its April 26, 1985 Federal Register announcement. 50 Fed.Reg. 16537 (April 26, 1985). DOE announced it had conducted an extensive site screening study resulting in the identification of three possible locations in Tennessee for a MRS. This overall study consists of several separate individual studies. The first is entitled Siting Of An MRS Facility: Identification Of A Geographic Region That Reduces Transportation Requirements, April, 1985. This study identifies the central eastern region of the United States as being the most suitable for a MRS. The second study is entitled Monitored Retrievable Storage Facility Site Screening and Evaluation Report, May, 1985. This report identifies, analyzes, and compares eleven separate sites in the preferred region, three of which are in Tennessee, as being suitable for a MRS. These two studies are summarized and integrated

in a third study entitled Screening and Identification Of Sites For A Proposed Monitored Retrievable Storage Facility, DOE/RW 0023, April, 1985 (Exhibit D). This third study goes on to argue the preferability of the three Tennessee sites for a MRS from among the eleven potential sites considered. All three of these studies or documents shall hereinafter be referred to collectively as the "Screening And Identification Study". Unlike the needs and feasibility study and the environmental assessment, the Screening And Identification Study appears to be a final study. DOE has not solicited any public comment on the study nor does there appear to be any final version to be published in the future. For all intent and purposes, the "Screening And Identification Study" identifying Tennessee as the ideal site for a MRS will be sent to Congress in January of 1986 with little or no change.

' 21. What is most troublesome to the State of Tennessee, and the gravamen of this lawsuit, is not necessarily that Tennessee was chosen as a MRS site, but the manner in which that selection process was carried out. The "Screening And Identification Study" identifying Tennessee as a MRS site was totally void of any participation by Tennessee officials. In lieu of any meaningful input by Tennessee during the site selection study process, DOE has developed an after-the-fact "program of information transfer" whereby the State of Tennessee is merely given an opportunity to review the "Screening And Identification Study" and make comments. DOE plans to take these comments, along with other public comments, and compile them in a separate compilation to be submitted with the MRS proposal to Congress. Even though DOE has made funds available to Tennessee to carry on this information transfer, it is all very much "after-the-fact" with respect to the final "Screening And Identification Study".

22. Tennessee's concern over its lack of involvement in this siting process is not an idle one or an attempt to be dilatory. A review of the "Screening And Identification Study" reveals major defects which call into question the reliability of the study. See Affidavit of Ben Smith. (Exhibit E).

FIRST CAUSE OF ACTION

23. 42 U.S.C. § 10137(b) of the "Nuclear Waste Policy Act", made applicable to development of a MRS by 42 U.S.C. § 10161(h), specifically requires as follows:

> In performing any study of an area within a State for the purpose of determining the suitability of such area for a [MRS]. . . and in subsequently developing and loading any [MRS] within such State, the Secretary shall consult and cooperate with the Governor and legislature of such State. . . in an effort to resolve the concerns of such State. . . regarding the

> public health and safety, environmental, and economic impacts of any such [MRS]. (Emphasis supplied).

The "Screening And Identification Study" constitutes a "study" under § 10137(b) "for the purpose of determining the suitability" of several areas in Tennessee for a MRS. As such, it was encumbent upon the Secretary to conduct the study in cooperation and consultation with the Executive and Legislative branches of the Tennessee Government. At the very least, this would require notice to Tennessee that the study was being conducted and an opportunity to comment and participate in the design of the study. Further, under § 10137(c), the Secretary should have given the State of Tennessee an opportunity to negotiate, upon its request, a binding written agreement to effectuate the consultation and cooperation contemplated by § 10137(b).

24. Contrary to the clear and express provisions of § 10137(b), the Secretary conducted the "Screening And Identification Study" with a complete lack of involvement on the part of the State of Tennessee. The first knowledge of this study by Tennessee officials was when it was was released in its final form on April 26, 1985. There was no formal period of public comment as was the case with the needs and feasibility study and the environmental assessment. It is readily apparent that the Secretary con-

ceives this to be a completed and final study not subject to change.

25. The citizens of Tennessee are entitled to full protection of the laws enacted by Congress. This is particularly so when it comes to the process of developing a facility such as a MRS. This Court has jurisdiction to ensure such protection and to issue orders directing the Secretary to comply with § 10137(b) under one of two alternative theories. First, this Court has jurisdiction to issue appropriate injunctive orders under 28 U.S.C. § 2202 to enjoin an officer of the federal government found by the Court to be acting illegally and outside the scope of his authority. Alternatively, this Court has jurisdiction under the mandamus provision of 28 U.S.C. § 1361 "to compel an officer or employee of the United States or any agency thereof to perform a duty owed. . ." to the State of Tennessee.

SECOND CAUSE OF ACTION

26. The State of Tennessee further states to the Court that the process initiated by the Secretary pursuant to 42 U.S.C. § 10161 to site a MRS in Tennessee is unconstitutional in that the statutory process violates Art. I, § 7, and the Tenth Amendment of the United States Constitution.

RELIEF REQUESTED

WHEREFORE, the State of Tennessee respectfully requests that:

1. The Court render a declaratory judgment holding that the defendant, John Herrington, Secretary of the United States Department of Energy, in preparing and developing the "Screening and Identification Study", violated 42 U.S.C. § 10137(b) of the "Nuclear Waste Policy Act of 1982" by failing to "consult and cooperate" with the Governor and General Assembly of the State of Tennessee in its preparation. As such, the Secretary acted illegally and outside the scope of his authority.

2. In addition, or in the alternative, the Court should rule that the Secretary violated a duty owed the State of Tennessee when he failed to consult and cooperate with the Governor and General Assembly of Tennessee under 42 U.S.C. § 10137(b) in the preparation of the "Screening And Identification Study" as more fully described above.

3. The Court enter an Order enjoining the defendant from utilizing or otherwise relying upon the "Screening And Identification Study" in the process of developing a MRS in Tennessee until such time as the study is conducted in full compliance with 42 U.S.C. § 10137(b).

4. The Court advance this cause on its calendar to be heard as soon as practicable.

5. The Court grant to the State of Tennessee such other relief as it may be entitled.

Respectfully submitted,

W J Michael Cody

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Senator DOMENICI. Ms. Suzan Harjo.

STATEMENT OF SUZAN SHOWN HARJO, EXECUTIVE DIRECTOR, NATIONAL CONGRESS OF AMERICAN INDIANS

Ms. HARJO. Thank you, Mr. Chairman. We, too, have a detailed statement which we would like to——

Senator DOMENICI. It will be made a part of the record.

Ms. HARJO. Thank you.

We are here to testify on one point, and that is the second repository affected tribes are not being funded in the prenotification grant process. There are 17 second repository States, as you know; 16 of those are being funded. The 17th hasn't been funded because it hasn't asked. All of the affected or potentially affected second repository tribes have asked for these grants, and have not been funded.

There are six reasons that the Department of Energy has given the tribes. One, they say there is no legal basis. The legal basis is contained in the Nuclear Waste Policy Act which calls for equitable treatment. The prenotification grants are not specifically authorized by the act, but they have been authorized to the States in the spirit of cooperation, in the spirit of consultation, collaboration. In other words, to allow them to hire technical and legal experts to bring them up to speed and to involve them prior to decisionmaking and not afterward.

As Senator Hecht pointed out earlier, the States would be powerless without the facts. You can well imagine that the tribes would be even more so powerless without facts, and we need to be brought into this process.

The second reason that the Department has said that the second repository tribes—and I should say that these are internal, informal discussions, and nothing has been specifically committed to writing at this point—but this is the response that those requests have been given so far. The second excuse is that tribes can't contribute and help the Department due to elementary level of knowledge. I would think that that would speak to the granting process and not against it.

The third excuse is that prenotification grants would be OK for the second repository tribes after area selections, but not now. That has not been the case with the States. So we think it should not, in the spirit of equity, be the case with the tribes.

The fourth excuse is that the Department doesn't know if the tribes will be affected. The Department does not know if the States will be affected either. So again, it is inequitable to treat tribes differently.

The fifth excuse is that there are too many tribes to deal with. At this point, there are 17 States. At this point, there are 16 identified second repository tribes.

The sixth point is that it's not cost effective. I don't quite know what that means, and that has not been explained to any tribal representative, so we can't really comment on that.

Most of the reasons given assume that the grants part of the Nuclear Waste Policy Act was passed as a convenience to the Department of Energy and we feel that it was passed as an empowerment to those potentially affected governments and their citizenry, and that tribes should be a part of this.

We have listed on page 2 the identified tribes at this point, and as you said earlier, that will be part of the record.

Not only has the Department denied financial assistance to the tribes in the second repository areas; it has denied access to workshops and briefings on the region to area screening methodology and consultation meetings on the siting guidelines, and these meetings have only been open for the Department and the State representatives. Tribal representatives have been told that they cannot attend.

The tribes thereby have been locked out of participation in the screening phase of the second repository program. We think, obviously, they should be a part of it.

The Department has been very helpful to our organization, which is the largest and oldest Indian organization in the country, and has funded our organization to work with the affected, potentially affected, and interested tribes to disseminate information, to provide certain technical assistance. And we have a National Indian Nuclear Waste Review Committee that we work with on a regular and ongoing basis.

And the cooperation we have received from the Department has—we have no complaint about that. Our relationship as an institution and as an information dissemination entity under this contractual arrangement is quite different from the arrangement that the Department of Energy should have with the affected tribes and with the second repository tribes, and we hope that you will use your good office to do something about that.

And I just want to close by thanking you, Mr. Chairman, for your ongoing and longstanding advocacy of Indian interests, and you've really been one of our champions, and I thank you for that.

Senator DOMENICI. You are most welcome.

[The prepared statement of Ms. Harjo follows:]

TESTIMONY OF SUZAN SHOWN HARJO
NATIONAL CONGRESS OF AMERICAN INDIANS

BEFORE THE

SUBCOMMITTEE ON ENERGY RESEARCH AND DEVELOPMENT
OF THE
SENATE COMMITTEE ON ENERGY AND NATURAL RESOURCES

SEPTEMBER 12, 1985

Testimony of Suzan Shown Harjo, Executive Director
National Congress of American Indians
before the
Subcommittee on Energy Research and Development
of the
Senate Committee on Energy and Natural Resources
September 12, 1985

Mr. Chairman, Members of the Subcommittee, I am Suzan Shown Harjo, Executive Director of the National Congress of American Indians (NCAI). The NCAI, established in 1944 to promote Indian treaty, traditional, cultural and property rights, is the oldest and largest national membership organization of American Indian and Alaska Native governments and people.

I would like to express my appreciation to the Subcommittee for providing NCAI, and the affected Tribes and States represented here today, with the opportunity to express our concerns about the Department of Energy's (DOE) Mission Plan.

The Mission Plan, which is the planning document which describes DOE's strategy to implement the Nuclear Waste Policy Act of 1982 (NWPA), was strongly criticised on the imbalance in the draft Mission Plan between technical areas and institutional issues, especially in the role of Indian Tribes and States in review of program documents and insufficient involvement in decision making.

More information was requested on procedures for the management plan to resolve financial, political, legal and institutional conflicts. In response, DOE added a new chapter on Institutional Relations to the Mission Plan. The revised Mission Plan continues DOE's policy of inequitable treatment of Tribes and States, policies we feel are not in keeping with the intent of the NWPA or DOE's commitment to "provide equitable treatment for all parties affected by the implementation of the Act" (Mission Plan, Vol.I, Chapter 4. page 129) or to provide mechanisms for the "full, open, and timely sharing of technical information" and "consultation on key documents." (Mission Plan, Vol.I, Chapter 1, page 7)

Providing Financial Assistance to Tribes and States

Grants totaling $930 thousand in fiscal year 1983 and $2.06 million in 1984 have been provided to States involved in the crystalline-rock program to "enable them to participate in the screening phase of the second-repository program" and has also enabled them to "review and comment on program documents, such as the siting guidelines and the Mission Plan, and to participate in program meetings and workshops." (Mission Plan, Vol.I, Chapter 4, pg. 137)

None of the Tribes located in the second repository regions have been awarded grants, while all of the States which have requested funds have been awarded grants.

There are 17 States and 16 Tribes located in the regions being considered for a second repository. These Tribes include the Bad River, Lac Courte Oreilles, Lac du Flambeau, Sokaogon Chippewa, St. Croix, Nett Lake, Fond du Lac, Red Cliff, Grand Portage, Mille Lacs, Oneida, Menominee, Bay Mills, Grand Traverse, Keweenah Bay and Hannahville governments and people. The Tribes were identified by the Bureau of Indian Affairs for DOE.

The Record of Responses states that "The Commonwealth of Virginia (47-1, 47-14, 47-18, and 47-27) and the Red Cliff Tribal Council (45-1) commented that second-repository States and Indian tribes should receive more financial assistance during the 'startup' period when the basis of Federal-State relations is being formed." (Record of Responses to Public Comments on the Mission Plan, Vol. II, Chapter 2, page 73) The response from DOE was:

> "Financial assistance to the second-repository States has been increasing as the program moves through the prenotification phase. No Indian tribes, however, have been found by the Department of the Interior to have 'affected' status for the second repository. Financial assistance will be provided to Indian tribes when the Department of the Interior determines that they are 'affected' and has notified the tribes of this status." (Record of Responses to Public Comments on the Mission Plan, Vol.II, Chapter 2, page 73)

In Sections 101, 116 and 118 of the NWPA, in reference to financial assistance provided under the Act, the language only deals with providing grants to "each affected Indian tribe where a candidate site for a repository is approved under section 112(c)" and to "each State in which a candidate site for a repository is approved under section 112(c)." The almost identical language of these and other sections in the Act that pertain to the participation of Tribes and States, show the clear intent of Congress to treat Tribes and States equally.

However, as early as March of 1983, the DOE decided to go beyond the Act, and offered the crystalline States financial assistance in the form of prenotification grants. These grants allowed for State review and comment on draft Regional Characterization Reports. In August and November of 1983 and July of 1984, additional financial assistance was offered for State review of the Crystalline Repository Project draft reports, participation in screening methodology workshops and other meetings. (DOE Crystalline Repository Project Fact Sheet on State Interactions)

At no time was financial assistance offered to the Tribes, and when Tribes applied for funding they were denied.

We applaud DOE's decision to provide prenotification grants to the second repository States in advance of the designation of potentially acceptable sites. This decision has allowed the States the opportunity for early involvement in the siting of the second repository. However, we deplore the DOE decision not to accord Tribes in the second repository region the same opportunities to participate. We ask that this inequity be remedied as soon as possible in DOE policies, including the Mission Plan, Chapter 4 on Institutional Plans and Activities.

DOE Interaction with Tribes

Not only has DOE denied financial assistance to the Tribes located in the regions considered for the second repository, it has denied access to workshops and briefings on the region-to-area screening methodology and consultation meetings on the siting guidelines. These meetings have been open only for DOE and State representatives, tribal representatives have been told they could not attend.

Tribes have thereby been locked out of participation in the screening phase of the second repository program. States, through financial assistance and access to information, have been able to participate in the waste management program and influence such important documents as the Mission Plan and Region-to-Area Screening Methodology for the Crystalline Repository Program. Tribes desire and deserve the same opportunity and access that DOE has provided the second repository States.

NCAI would like to acknowledge and thank DOE for providing grants to NCAI and other intergovernmental agencies to "address the 'startup time' problem faced by State agencies and the govenments of affected Indian tribes" and "to conduct seminars and help provide information to the States and tribes." (Mission Plan, Vol.I, Chapter 3, page 256)

In recent months, DOE has also agreed to provide travel assistance to Indian governmental representatives in the second repository regions for attendance at NCAI's National Indian Nuclear Waste Review Committee Meetings. While we are grateful for this assistance, it is inadequate for full participation in the decision making for the waste program. It should also be noted that the States have several opportunities for coordination of their efforts since DOE has provided funding for the National Governor's Association, National Conference of State Legislators, and the Western Interstate Energy Board, while the Tribes have only NCAI.

Tribes, as States, must be accorded equal opportunities, as is required by the spirit and the letter of the NWPA.

Overall Comment

As an overall comment, we would appreciate changes in the Mission Plan, to write "Tribe(s)" with a capital "T", as "States(s)" is written with a capital "S." Our guide for this is the initial governing document of the United States, which provides in the Commerce Clause that Congress is authorized to regulate commerce "with foreign Nations, and among the several States, and with the Indian Tribes." (U.S. Constitution, Article 1, Section 8, Clause 3)

Thank you for the opportunity to comment.

Senator DOMENICI. Senator Hecht, if you have questions, I am prepared in a moment to yield. I think what I personally intend to do, if staff will just bear with me here for a minute, it seems to me since we still have an additional State representative panel and then the public witnesses, that what I'm going to do—frankly, I see no reason why some of the issues that you raise here that have to do with the conduct of the Department of Energy—now, certainly, Mr. Larson, you raise different issues than that—you'd like us to start over. We aren't going to do that. That's a very interesting suggestion, but that can't happen. It took us 8 years to draw the bill, and if you want us to start over, we'll never get anywhere.

But from the standpoint of questions with reference to process, available information, and the like, could we have the staff go through these statements and the following statements and compile a list of their questions, their concerns, and let's submit them to Mr. Rusche for answer, and then let's submit the answers to the chairman and the ranking member first, before we make them part of the record and then let's send the answers to the respective witnesses that asked questions.

Can we do that?

Now, we don't want to impose more on you, Mr. Rusche, but it's obvious this kind of process involves a tremendous amount of your time and tremendous staff. But I think that might be an appropriate way for this first oversight hearing with the witnesses from affected States.

Now, that doesn't mean we are going to get involved and ask you to explain your position on a lawsuit. I mean we assume everyone is grown up; if you want to have a lawsuit, go over there and have one. We'll get a decision one of these days.

It might be interesting, however, if we in this process had just a little explanation of what the lawsuit is about, since, in the case of the attorney general from Tennessee, we'd at least have in the record, if it does not prejudice you, an explanation of what that issue is about. And we'll disseminate that back out to all of those who have raised questions.

Let me just say it's interesting that the first witness raises an issue of let's go with the interim storage with a little more vigor, a little more certainty, and that will permit us to be a little slower on the other end. We won't have to be expediting permanency. And you heard one of the big concerns from one of the distinguished Senators, we sure don't want to substitute that MRS for the permanent one.

One could read into yours that you don't want that. On the other hand, we could slow up the other process if we could get on with making sure we did some things on the MRS. That's precisely the kind of balancing we're going to have. and I would say, Mr. Rusche, if these witnesses here are any indication of what we're going to hear the rest of the time, your diligence in trying to fit within this timetable, in particular the 27 months instead of the full 3 years, kind of turned out to be a two-edged sword for you, and I guess you understand that.

On the one hand, it's your effort to say I can live with what you told us to do; on the hand, it rather quickly is being assumed that if you don't put the full time in, you're asking that somebody cut corners. Those are constant problems, and I guess as you mature through this, you'll understand, sometimes it's not worth saying 27 when it might take 36; maybe you ought to say 42. Then we could beat on you instead of them.

Does that satisfy all of you, that we handle the response to your questions that way? And if you have anything further that comes up and you want to submit it by way of observations or questions, if you'll do them rather quickly, we'll try to get the Department to answer them also.

One concern I really do have, and I think this and the next panel will serve a useful purpose, I do want to say this publicly. I don't think that there is any justification for the Department not to be sharing information, to be answering some of the questions that have been raised here, without you having to bring them to Congress, and we hope he's doing that. There is a conflict right here. On the one hand, Tennessee seems to be saying they are doing that. You aren't agreeing that they're doing everything else right, but that you are. Somebody else would say they are not.

On the Indians, Indian groups, we would like an explanation. I think I know what it will be. The National Congress of American Indians have been funded to provide the expertise and disseminate it down. I assume that will be. But I would like a more detailed answer as to the——

Ms. HARJO. The act doesn't mention the National Congress of American Indians. But, by golly, it mentions Indian tribes as States as being treated equitably.

Senator DOMENICI. I understand.

All right, thank you very much. Let's take the next—oh, excuse me.

Senator GORE. I'll only take 1 minute.

Senator DOMENICI. But let me first ask Senator Hecht the question I didn't let him ask. Is my approach to getting these issues answered and getting them back to the Senators and the Department satisfactory to you, Senator?

Senator HECHT. Yes. I will not question this panel, but I'd like to reserve a few moments to question someone from Nevada on the next panel.

Senator DOMENICI. Of course. Of course. And, Senator Gore, I believe you have a witness here from your State.

Senator GORE. I'll be very, very brief. Jim Word is doing an outstanding job in Tennessee. We feel we have one of the best Commissioners of Health and Environment in the entire country, and we really appreciate his public service.

I wanted to underscore a statement that I'm told he made earlier, that when I predicted what the outcome was likely to be of the State's deliberations, I did not mean in any way to imply that there was a preconceived notion about that. That was a prediction based more on an analysis of what I see occurring within the minds of our people in Tennesssee.

I had 56 townhall meetings during the month of August, and at every single one of them, this subject came up. Jim knows this as well as I do, that it's a matter of great, great concern, and for that and other reasons, I made that prediction—perhaps imprudently—but it was certainly not intended to imply that there was any prejudice or preconceived outcome.

Second and finally, Mr. Chairman, I want to express to you my appreciation for your request that the Department of Energy respond formally to the concerns that have been outlined by this panel and by Commissioner Word in particular, and again I appreciate your courtesy in letting me sit in on these hearings.

Thank you.

Senator DOMENICI. Let me just say to Mr. Rusche, I clearly am experimenting in this question business. We'll try it on through the three panels today. I don't intend to make you be here at every oversight hearing we have and handle the questions this way. I just think on this first of this type, I think it's worthwhile. We'll get a little bit feel, too.

Mr. RUSCHE. I agree.

Senator DOMENICI. I thank you all very much.

The other comment I had, Mr. Rusche, as I thought about this exercise, I don't think our staff has enough to do anyway either, so this should be good for them. [Laughter.]

Why don't we just proceed in this manner: Mr. J.I. Palmer, Jr., the administrative assistant, Office of the Governor, State of Mississippi. Why don't we just proceed and have you testify, and we'll go right down the line.

STATEMENT OF J.I. PALMER, JR., ADMINISTRATIVE ASSISTANT TO GOV. WILLIAM A. ALLAIN, STATE OF MISSISSIPPI

Mr. PALMER. Thank you, Mr. Chairman, for the opportunity to be here today. I do have a detailed statement for the record, which I would appreciate your incorporating.

You will find—and ours won't be the only one—that that statement is quite critical, frankly, of the manner in which the Department has proceeded to implement the act. We're not necessarily overly critical of your efforts and the act itself, but it's the manner in which things have transpired since the act was passed.

We have come to the conclusion that with respect to particular parts of the act, the program is not consistent with either the letter or intent of the law. There are areas of the program which we don't think bespeak scientific credibility, and because of those two reasons, we think the program in many respects, if not in large measure, is not legally defensible.

And because of that, and unfortunately because of that, all of these efforts and all of these moneys that are being spent, may wind up in the designation of a first repository, and Mississippi is a potential first repository State, that that ultimate State designation will mean that you won't be a beneficiary of the program, as my friend Ben Rusche has suggested, but rather a victim of it.

It has already been stated and I wholeheartedly agree, that the great gulf that now exists between the first repository States and the Department began right after the act was passed, and it seemed that the Department erected a virtual iron curtain around all but six of the States of this Union, in which nine sites were being looked at, and there's been no change.

As we have watched the guidelines emerge, as we have seen the Mission plan emerge, it just seems to us over and over that this entire ball game has been constructed around the nine sites that existed with no effort on the Department's part to expand beyond that.

Ben talked about a principal goal of the program being public credibility. One witness has already called that public confidence, and frankly we feel it's at a very low ebb. We know it's at a low ebb in our State and we see that situation elsewhere.

You'll see in my own statement much about the matters of liability, transportation, socioeconomic impacts. And I might say here, one of the reasons given, if not the principal reason, for denying funding for independent scientific studies, is the possible compromise of the site. Well, you're not going to compromise a site by going out there and trying to find out the impacts of this program in that area to date. That's all we've asked for, and it's been like pulling eyeteeth to get adequate funding to go find out how our people have suffered to date.

Senator, two things you said right in the beginning in your opening statement I think go right to the heart of the concerns of the first-round States. You said that it was your intent in the passage of the act that we get two things. One is fundamental input. You didn't say incidental input or after-the-fact input. You said fundmental input. Coupled with that, you said you intended for us to have substantive participatory rights, not procedural rights or anything less than substantive rights. Those two terms, "fundamental" and "substantive" are key to what we've been seeking. And frankly, we think we can make a very strong case to show you that we have not gotten what you intended that we get.

We've only asked to be able to influence the program in the early stages, not be dragged in or brought in a perfunctory matter, after the fact, and said see how this tastes; we've already thought it out, and we want you to give it a go-by. We see that now happening with the National Academy of Sciences looking at a siting process, and when Ben said he was going to do what they said, it was like opening a can of fresh tuna fish right under my nose; something smells when one Federal agency just says, carte blanche, I will do anything another entity tells me later on.

To the extent that the mission plan leaves out things which we think should be there, it's a omission plan. To the extent that the documents overstate to the point of almost misrepresentation and some perceive positive things, we think it's a commission plan.

In point, there are errors on both sides. We've tried to comment on that. I would say that we hope you would take and look at our responses to DOE's handling of our comments when we have them done.

Senator Johnston, in closing, I might say—I'm sorry he's not here—pointed out that it appears that our system lauds the law over the science. Well, that is a fact. And it seems to us in realization of that fact, DOE is at least under some constaint to put their program together so that it will be defensible as that system runs it course. And that remains to be seen.

Thank you, sir.

[The prepared statement of Mr. Palmer follows:]

TESTIMONY OF
J. I. PALMER, JR.,
ADMINISTRATIVE ASSISTANT TO
GOVERNOR WILLIAM A. ALLAIN, STATE OF MISSISSIPPI

BEFORE THE
SUBCOMMITTEE ON ENERGY RESEARCH AND DEVELOPMENT
COMMITTEE ON ENERGY AND NATURAL RESOURCES
UNITED STATES SENATE

SEPTEMBER 12, 1985

MR. CHAIRMAN AND MEMBERS OF THE COMMITTEE:

I AM J. I. PALMER, JR., ADMINISTRATIVE ASSISTANT TO GOVERNOR BILL ALLAIN OF THE STATE OF MISSISSIPPI. I APPRECIATE THE OPPORTUNITY TO APPEAR BEFORE YOU TODAY TO PRESENT A STATEMENT ON BEHALF OF THE STATE OF MISSISSIPPI REGARDING THE MISSION PLAN WHICH HAS NOW BEEN FORMALLY SUBMITTED TO THE CONGRESS BY THE DEPARTMENT OF ENERGY ("DOE"). OF COURSE, THE MISSION PLAN PURPORTS TO PRESENT TO YOU THE OVERALL "GAMEPLAN," SO TO SPEAK, BY WHICH DOE WILL ATTEMPT TO IMPLEMENT THE NUCLEAR WASTE POLICY ACT OF 1982 (THE "ACT"), INSOFAR AS IT PRESCRIBES THE MECHANISM FOR DISPOSAL OF HIGH-LEVEL NUCLEAR WASTE.

SINCE THE ENTIRE MISSION PLAN IS BEFORE YOU AND THIS VOLUMNIOUS DOCUMENT COVERS EVERY ASPECT OF THE DOE PROGRAM, IT IS NOT POSSIBLE FOR ME TODAY TO PRESENT EACH AND EVERY POINT OF CONCERN WHICH MISSISSIPPI OFFICIALS HAVE RAISED, OFTEN REPEATEDLY, REGARDING THE MANNER IN WHICH THE DEPARTMENT OF ENERGY IS CONDUCTING THE PROGRAM YOU AUTHORIZED. I WILL ATTEMPT, HOWEVER, TO COVER A NUMBER OF THE MAJOR ISSUES WHICH STILL CONCERN US. WE ARE VERY DISTRESSED THAT MANY OF THESE PRINCIPAL CONCERNS, WHILE RAISED SOME TIME AGO, REMAIN UNADDRESSED BY DOE. FRANKLY, IT APPEARS TO US THAT DOE IS DELIBERATELY AVOIDING ADDRESSING A NUMBER OF VERY THORNY ISSUES WHICH WE DON'T FEEL THEY HAVE DEMONSTRATED COMPETENCY TO HANDLE.

YOU ARE AWARE THAT, ON AUGUST 1, 1985, CONGRESSMAN ED MARKEY HELD A HEARING BEFORE THE SUBCOMMITTEE ON ENERGY CONSERVATION AND POWER OF THE COMMITTEE ON ENERGY AND COMMERCE OF THE UNITED STATES HOUSE OF REPRESENTATIVES TO DISCUSS BOTH THE SITE SELECTION ASPECT

OF THE DOE HIGH-LEVEL NUCLEAR WASTE PROGRAM AND PROBLEMS ASSOCIATED WITH THAT PARTICULAR PROCESS. I HAD THE OPPORTUNITY TO APPEAR BEFORE THAT COMMITTEE AND TO SUBMIT A LENGTHY STATEMENT. BECAUSE THE ISSUES BEFORE YOU TODAY ENCOMPASS THE SUBJECT MATTER OF THE MARKEY HEARING, I HAVE ATTACHED TO, AND HEREBY INCORPORATE INTO, MY STATEMENT TODAY A COPY OF MY FORMAL REMARKS BEFORE THE MARKEY PANEL.

FROM THE STANDPOINT OF GENERALITY, I WILL SAY IN THE BEGINNING THAT THE MISSION PLAN, AS SUBMITTED TO THE CONGRESS, APPEARS TO THOSE OF US WHO HAVE SPENT CONSIDERABLE TIME IN THIS PROGRAM TO BE A RATHER SLICK PUBLIC RELATIONS TOOL. HOWEVER, THE DOCUMENT CONSISTENTLY MINIMIZES OR DOWNPLAYS THE NEGATIVE ASPECTS OF THE ENTIRE HIGH-LEVEL NUCLEAR WASTE DISPOSAL ISSUE, PARTICULARLY REGARDING GEOLOGICAL REPOSITORIES, AND, SIMILARLY, OVERSTATES PURPORTED POSITIVE ASPECTS TO THE POINT OF VIRTUAL MISREPRESENTATION. MOREOVER, DOE NOW CONTENDS THAT THIS DOCUMENT IS A "LIVING THING" WHICH MIGHT BE AMENDED FROM TIME TO TIME, POSSIBLE ANNUALLY. WE ARE NOT SURPRISED AT THIS STRATEGY, IN VIEW OF THE FACT, AS I HAVE ALREADY MENTIONED, THAT THERE APPEARS TO BE MARGINAL COMPETENCY WITHIN DOE TO ADEQUATELY DEAL WITH CERTAIN KEY ISSUES AT THE PRESENT TIME; AS WE ALL ANTICIPATE, DOE WANTS TO KEEP AS MANY DOORS AJAR AS POSSIBLE SO AS TO ADJUST ITS PROGRAM ACCORDING TO WHICH WAY POLITICAL, SCIENTIFIC, AND OTHER WINDS MIGHT BLOW AT SOME PARTICULAR TIME IN THE FUTURE. THEREFORE, WE FIND THAT THE DOCUMENT BEFORE YOU TURNS OUT TO BE NOT MUCH OF A "PLAN" (I.E. A PRESENTATION OF SPECIFIC SOLUTIONS FOR SPECIFIC PROBLEMS, ACCORDING TO A CREDIBLE

TIMETABLE AND COST FORMAT) AT ALL, BUT RATHER A VOLUMINOUS "OUTLINE" OF SCENARIOS BEING CONSIDERED BY DOE. BECAUSE SO MANY ISSUES ARE NOT ADEQUATELY ADDRESSED, AND OTHERS ARE TREATED SO LOOSELY AS TO BE VIRTUALLY MISREPRESENTED, IT MIGHT BE MORE APPROPRIATE TO CALL THIS DOCUMENT EITHER AN "OMISSION PLAN" OR A "COMISSION PLAN". THIS GENERALLY NEGATIVE CHARACTERIZATION OF THE DOE DOCUMENT IS NOT A PRONOUNCEMENT I TAKE PARTICULAR GLEE IN DELIVERING. FRANKLY, AS A TAXPAYER, I WOULD MUCH PREFER TO SAY TO YOU THAT DOE HAS UNDERTAKEN THE MANDATES OF THE ACT, AS YOU INTENDED THEM TO BE, AND HAS CARRIED FORTH ITS ASSIGNMENTS TO DATE IN AN EFFICIENT, SCIENTIFICALLY CREDIBLE, AND LEGALLY DEFENSIBLE MANNER. HOWEVER, MY PERSONAL EXPERIENCE, AS WELL AS THAT OF MY COLLEAGUES WHOM I REPRESENT BEFORE YOU TODAY, IS THAT DOE HAS FAILED ON ALL THREE POINTS. AS WILL MORE CLEARLY APPEAR FROM THE REMAINDER OF MY STATEMENT, THE "MISSION" OF DOE APPEARS, QUITE BLUNTLY, TO BE MERELY TO FIND AN EXPEDIENT MEANS TO TAKE HIGH-LEVEL NUCLEAR WASTE FROM THE PRIVATE AND MILITARY SECTORS AND MOVE THESE MATERIALS TO SOME POINT AWAY FROM THEIR PRESENT STORAGE SITES TO RELIEVE THE DISCOMFORT OF THOSE NOW RESPONSIBLE FOR MAINTAINING THESE WASTES WHERE THEY ARE. DOE NO LONGER EVEN PRETENDS TO BE MAKING AN EFFORT TO FIND THE VERY BEST REPOSITORY LOCATION, FROM ALL VANTAGE POINTS, NOR DOES DOE EVEN PRETEND TO BE SEARCHING FOR THE OPTIMUM REPOSITORY LOCATION. IT SEEMS THAT THE DOE GOAL HAS BECOME, AND THUS THE PROGRAM IS SPEEDING HEADLONG TOWARD, MERELY A "TOLERABLE" SOLUTION TO A MAJOR PROBLEM.

AT THIS POINT, I WILL TURN TO SPECIFIC SUBJECTS OF CONCERN TO US. FIRST, WE ARE VERY DISTRESSED AT THE MANNER IN WHICH DOE

HAS DEALT WITH OUR SPECIFIC COMMENTS ON THE DRAFT MISSION PLAN CIRCULATED SEVERAL MONTHS AGO. OUR POSITION HAS CONSISTENTLY BEEN THAT CONGRESS INTENDED, IN SECTION 301(b) OF THE ACT, THAT THE "COMMENT RESPONSE DOCUMENT" BE SUBMITTED BACK TO THE PUBLIC FOR REVIEW PRIOR TO ITS TENDER TO CONGRESS. THIS WOULD GIVE ALL PARTIES AN OPPORTUNITY TO EFFECTIVELY DEAL WITH THE MANNER IN WHICH DOE HAS CHOSEN TO EITHER ADDRESS, OR IGNORE, THE POINTS RAISED BY THOSE TAKING THE TIME AND MAKING THE EFFORT TO REVIEW THESE EXTENSIVE DOCUMENTS. WE NOW HAVE UNDERWAY A CONCERTED EFFORT TO COMPARE THE DOE RESPONSES TO THE COMMENTS SUBMITTED EARLIER ON BEHALF OF THE STATE OF MISSISSIPPI, AND WE WILL BE PROVIDING THE RESULTS OF THAT EFFORT TO OUR CONGRESSIONAL DELEGATION, TO DOE, AND, HOPEFULLY, TO YOU, AS WELL. HOWEVER, IF THE ONLY CONGRESSIONAL REVIEW OF THE MISSION PLAN IS THAT WHICH WE SEE IN THE HEARINGS BEFORE THIS COMMITTEE AND ONE OF YOUR COUNTERPARTS IN THE OTHER CHAMBER THIS WEEK, THERE LIKELY WILL NOT BE AN ADEQUATE OPPORTUNITY FOR US AND OTHERS TO SHOW HOW AND WHERE OUR COMMENTS HAVE NOT BEEN GIVEN FULL ATTENTION. THUS, DOE HAS ATTEMPTED TO THWART OUR REVIEW OF THEIR TREATMENT OF OUR COMMENTS BY SIMULTANEOUSLY FILING THE COMMENT RESPONSE DOCUMENT WITH THE FINAL MISSION PLAN. I URGE YOU TO GIVE ALL PARTIES A REASONABLE OPPORTUNITY TO CRITIQUE THE MANNER IN WHICH DOE HAS ADDRESSED THE MANY THOUSANDS OF COMMENTS WHAT WERE SUBMITTED ON THE MISSION PLAN, SO THAT YOU MAY BETTER DEAL WITH YOUR RESPONSIBILITIES UNDER THE NUCLEAR WASTE POLICY ACT AS REGARDS REVIEW OF THESE MAJOR DOCUMENTS.

NEXT, A TOPIC OF CONSIDERABLE CONCERN TO ALL WITH WHOM I HAVE COME IN CONTACT IN THE SCOPE OF MY EFFORTS IN THIS PROGRAM IS THE PROVISIONS OF THE NUCLEAR WASTE POLICY ACT REGARDING "CONSULTATION

AND COOPERATION". THIS CONCEPT HAS BEEN HEATEDLY DISCUSSED IN RECENT MONTHS BECAUSE OF THE OBVIOUS DIVERGENCE OF INTERPRETATION PLACED ON THIS CONGRESSIONAL MANDATE BY THE STATES AND DOE. WE HAVE ALWAYS BELIEVED THAT CONGRESS INTENDED FOR THE TERM "CONSULTATION" TO MEAN A TWO-WAY FLOW OF INFORMATION IN THE FORM OF DELIBERATION, AS ANY GRADE SCHOOL DICTIONARY DENOTES. HOWEVER, TOO OFTEN DOE HAS ENGAGED IN MERE "NOTIFICATION" REGARDING PARTICULAR SENSITIVE ISSUES, THEREBY COMPLETELY ELIMINATING ANY POSSIBILITY OF THE TWO-WAY INTERCHANGE WE HAVE SOUGHT. THE MAIN THING WE HAVE BEEN CONSISTENTLY DENIED IS A CHANCE TO INFLUENCE DOE PROCESSES AS THEY BEGIN TO TAKE SHAPE. TYPICALLY, WE ARE DRAWN INTO THE PICTURE IN A PERFUNCTORY, AFTER-THE-FACT, "REVIEW AND COMMENT" POSTURE. THEN, DOE HAS BECOME SO ENTRENCHED IN ITS OWN MODE, LITTLE CHANGE RESULTS. AS I MENTIONED TO THE CONGRESSMAN AT THE MARKEY HEARING, A PRIME EXAMPLE OF THE ABJECT FAILURE OF DOE TO EVEN ATTEMPT, IN GOOD FAITH, TO ENGAGE IN MEANINGFUL CONSULTATION AND COOPERATION IS THAT SEQUENCE OF EVENTS LEADING TO PUBLICATION OF THE DRAFT ENVIRONMENTAL ASSESSMENTS (EA's) IN DECEMBER, 1984. AS MORE FULLY EXPLAINED IN MY ATTACHED STATEMENT, DOE DELIBERATELY FORECLOSED ALL OPPORTUNITY TO REVIEW AND CRITIQUE THREE OF THE PRINCIPAL CHAPTERS OF THE DRAFT ENVIRONMENTAL ASSESSMENTS PRIOR TO THEIR RELEASE TO THE GENERAL PUBLIC, WHILE ALLOWING THE STATES AND TRIBES AN OPPORTUNITY TO REVIEW SEVERAL SUCCESSIVE EARLIER DRAFTS OF THE REMAINING CHAPTERS. OF COURSE, SINCE THE CHAPTERS THAT WE WERE NOT GIVEN CONTAIN THE RANKINGS AND SITE COMPARISONS, IT IS CLEAR, IN RETROSPECT, THAT DOE HAD NO INTENTION OF ALLOWING THE STATES TO EVEN REVIEW - LET ALONE INFLUENCE - THE MOST CRITICAL ELEMENTS OF THE EA's BEFORE THESE DOCUMENTS WERE RELEASED TO THE GENERAL PUBLIC

FOR SCRUTINY.

ANOTHER GRAND EXAMPLE, IN OUR VIEW, OF THE MANNER IN WHICH DOE HAS SELECTIVELY MANIPULATED, OR RATHER PROSTITUTED, CONGRESSIONAL INTENTIONS REGARDING CONSULTATION AND COOPERATION IS THE PROCESS BY WHICH THE MONITORED RETRIEVABLE STORAGE (MRS) CONCEPT HAS NOW BEEN FOIST UPON THIS CONGRESS AND THE PUBLIC. AGAIN, WHILE SPECIFIC DETAILS REGARDING CERTAIN RECENT EVENTS PERTAINING TO THE MRS ARE CONTAINED IN MY ATTACHED STATEMENT, I WOULD REITERATE FOR EMPHASIS THAT CONGRESS WELL KNOWS ITS INTENT IN DRAFTING SECTION 141 OF "THE ACT REGARDING THE MRS, WHEREBY A NUMBER OF EARLIER SECTIONS OF THE ACT CONTAINING MANDATORY CONSULTATION AND COOPERATION PROVISIONS CONCERNING A REPOSITORY WERE INCORPORATED WHOLESALE INTO ANY CONSIDERATION OF AN MRS. NOTWITHSTANDING THESE MANDATES, DOE PROCEEDED TO: (1) DEVELOP A RATIONALE FOR THE MRS ITSELF; (2) FABRICATE A METHODOLOGY FOR INITIALLY SCREENING POSSIBLE SITES; AND (3) THEN IMPLEMENT THAT RATIONALE TO THE EXTENT OF SEVERAL SUCCESSIVE ITERATIONS WHICH RESULTED IN THE FINAL ELIMINATION OF ALL BUT THREE POSSIBLE SITES IN TENNESSEE AS CANDIDATES FOR AN MRS FACILITY. NOW, AFTER DOE HAS PUBLISHED ITS REPORT REGARDING THE MRS IN DRAFT FORM, THE DEPARTMENT CONTENDS THAT THEY ARE AT THE "BEGINNING" OF THE MRS PROCESS. OBVIOUSLY, THIS CONTENTION NECESSARILY MEANS THAT ALL THE PROVISIONS CONGRESS PUT INTO PLACE FOR PUBLIC INVOLVEMENT, CONSULTATION AND COOPERATION WITH STATES AND OTHER ENTITYS, AND OTHER PROCEDURAL ASPECTS OF THE PROGRAM WILL OCCUR WHILE THE MATTER IS REPOSED IN CONGRESS. MOREOVER, IT MEANS THAT, IF THE PROCESS ULTIMATELY YIELDS A RESULT CONTRARY TO THAT SET FORTH IN THE DOE REPORT, WE WILL ALL HAVE TO GO BACK TO THE BEGINNING AND START OVER AGAIN SO AS TO BE ABLE TO BRING

ANOTHER REPORT BACK TO CONGRESS. SUCH A PROPOSITION IS UTTERLY PREPOSTEROUS AND FURTHER INDICATES THE BENT OF DOE TO ABORT, ON A SELECTIVE BASIS, WHATEVER PROVISIONS OF THE ACT GET IN THEIR WAY DURING THEIR MAD PLUNGE TO MOVE THE ENTIRE HIGH-LEVEL NUCLEAR WASTE PROGRAM AS FAR AND AS FAST IN THEIR CHOSEN DIRECTION AS POSSIBLE - THE CONGRESS, THE STATES, THE INDIAN TRIBES, AND ALL OTHERS NOTWITHSTANDING.

A MATTER CLOSELY RELATED TO CONSULTATION AND COOPERATION IS THAT OF INFORMATION SHARING WITH THE PUBLIC. THE MISSION PLAN REPRESENTS THAT DOE HAS ATTEMPTED "FULL, OPEN, AND TIMELY SHARING OF TECHNICAL INFORMATION." IN FACT, MISSISSIPPI HAD TO FILE A FREEDOM OF INFORMATION ACT(FOIA) REQUEST IN EARLY 1980 JUST TO BEGIN THE PROCESS OF OBTAINING TECHNICAL INFORMATION FROM DOE REGARDING WORK THAT HAD BEEN DONE PRIOR TO THAT TIME IN CONNECTION WITH THE TWO SITES IN OUR STATE UNDER CONSIDERATION AS A POSSIBLE REPOSITORY. IN ORDER TO SECURE ALL THIS PRIOR INFORMATION, THE GOVERNOR IMPOSED A CONDITIONAL MORATORIUM ON ALL NEW DATA ACQUISITION STUDIES IN THE STATE. THE SOLE AND ONLY CONDITION OF THE MORATORIUM WAS - AND STILL IS - THAT DOE GIVE MISSISSIPPI OFFICIALS THE INFORMATION WE REQUESTED. TO DATE, WE ARE STILL WAITING FOR DOE TO FULLY COMPLY WITH THE CONDITION OF THE MORATORIUM, WHICH HAS NOW BEEN IN PLACE FOR OVER FIVE AND ONE-HALF YEARS.

NOWHERE IN THE DOE "GAME PLAN" DO WE FIND A CREDIBLE METHOD FOR MEASURING PUBLIC CONFIDENCE IN THE FEDERAL HIGH-LEVEL NUCLEAR WASTE PROGRAM. INDEED, WHILE DOE HAS BEEN TOLD REPEATEDLY THAT THE END RESULT OF THEIR EFFORTS WILL NEVER BE IMPLEMENTABLE IF THE AMERICAN PUBLIC TOTALLY REJECTS THEIR CONCLUSIONS, THE DE-

PARTMENT CONTINUES TO GIVE THE IMPRESSION THAT IT CAN DO BASICALLY WHATEVER IT PLEASES, WITH TOTAL IMPUNITY, REGARDLESS OF THE PUBLIC SENTIMENT TOWARD THE PROGRAM. WHILE SUCH BUREAUCRATIC ARROGANCE IS NOT UNEXPECTED, DOE IS IN FOR A RUDE AWAKENING UNLESS SOME GOOD FAITH EFFORT IS MADE TO RESOLVE THE GROSS LACK OF CREDIBILITY WHICH NOW CHARACTERIZES - OR RATHER PLAGUES - THEIR ENTIRE PROGRAM. THE MISSION PLAN RECITES THAT PRESIDENT REAGAN'S OCTOBER 8, 1981 STATEMENT HELPED FORGE A "NATIONAL CONCENSUS" REGARDING THE DISPOSAL OF RADIOACTIVE WASTE. SUCH AN ASSERTION FALLS OF ITS OWN WEIGHT IN VIEW OF THE FACT THAT THE ONLY "CONCENSUS" IN SUPPORT OF THE CURRENT DOE PROGRAM IS THE NUCLEAR INDUSTRY AND DOE ITSELF --EVERYBODY ELSE SEEMS TO BE CONDEMNING VARIOUS AND SUNDRY ASPECTS OF THE PROGRAM. EVEN THE MOST RECENT GENERAL ACCOUNTING OFFICE (GAO) AUDIT OF THE DOE PROGRAM FOUND SUCH A PAUCITY OF PUBLIC ACCEPTANCE OF THE PROGRAM THAT GAO FELT OBLIGED TO EVEN MAKE SPECIFIC RECOMMENDATIONS FOR DOE TO CONSIDER IN EFFORTS TO ESTABLISH SOME SEMBLANCE OF CREDIBILITY ABOUT WHAT THEY ARE DOING.

ANOTHER MATTER CLOSELY RELATED TO CONSULTATION AND COOPERATION, AS WELL AS PUBLIC INFORMATION SHARING, IS THAT OF PEER REVIEW. MISSISSIPPI AND OTHER STATES HAVE, FOR A LONG TIME, SERIOUSLY QUESTIONED THE PEER REVIEW ASPECTS OF THE DOE PROGRAM. IT WAS APPALLING TO US TO SEE THE MISSION PLAN CONTEND THAT THE STATES AND INDIAN TRIBES ARE EXPECTED TO CONSTITUTE A MAJOR PEER REVIEW GROUP OF THE DOE PROGRAM. IF THIS IS TO OCCUR, THEN THE STATES AND INDIAN TRIBES MUST BE AFFORDED ADEQUATE FUNDING TO EQUIP THEMSELVES TO ENGAGE IN PEER REVIEW, AS WELL AS AMPLE TIME TO CRITIQUE THE WORK PRODUCT GENERATED BY DOE. TO DATE, NEITHER OF THESE

NECESSITIES HAS BEEN OFFERED IN SUFFICIENT QUANTITIES TO THE STATES OR TRIBES. TIME CONSTRAINTS, WITH RESPECT TO REVIEW AND COMMENT UPON MAJOR DOCUMENTS, ARE COMPRESSED BEYOND REASON, AND DOE HAS CONSISTENTLY BEEN OVERLY HARD-NOSED REGARDING ADEQUATE FUNDING FOR THE STATES TO DEVELOP THE NECESSARY SKILLS TO EFFECTIVELY ENGAGE IN PEER REVIEW EFFORTS.

BEFORE TURNING TO MORE TECHNICAL MATTERS, LET ME TOUCH UPON ONE MAJOR CONCERN WHICH HAS BEEN THE TOPIC OF EXTENDED DEBATE FOR THE PAST COUPLE OF YEARS OR SO, AND THAT IS THE APPARENT ENSLAVEMENT OF DOE TO THE TIME SCHEDULE PRESCRIBED BY THE ACT. IT IS NOW OBVIOUS TO ALL THAT DOE, EVEN IF IT HAD OPERATED EFFICIENTLY TO DATE, WOULD HAVE BEEN HARD PRESSED TO EVEN COME CLOSE TO MEETING THE CONGRESSIONAL TIMETABLE SET FORTH IN THE ACT. IN VIEW OF THE FACT THAT THE DOE PROGRAM HAS BEEN PLAGUED WITH ONE MAJOR PROBLEM AFTER ANOTHER, INCLUDING THE SUCCESSIVE TURNOVER OF AT LEAST FOUR FULL HEADQUARTERS REGIMES, THE ONLY POSSIBLE WAY TO FORCE THE FEDERAL HIGH-LEVEL NUCLEAR PROGRAM BACK ON TRACK IS TO SHORTCUT THE ENTIRE PROCESS. THIS MEANS SACRIFICING ALL ON THE ALTAR OF TIME SACREDNESS. INCREDIBLE AS IT IS, DOE HAS BLATANTLY VIOLATED THE ACT BY MISSING MAJOR MILESTONES, WHILE AT THE SAME TIME DELIBERATELY SHORT-CIRCUITING OTHER PORTIONS OF THE PROGRAM MERELY FOR THE PURPOSE OF REGAINING LOST GROUND. SOMEHOW, THE BUREAUCRATIC MENTALITY WE SEE IN THIS PROGRAM STILL CLINGS TO THE NOTION THAT TWO WRONGS WILL INEVITABLY MAKE A RIGHT. AS AN EXAMPLE OF THE PERVERSE TIME SCHEDULES SET FORTH IN THE MISSION PLAN, IN-SITU TESTING IN SALT IS SCHEDULED TO TAKE EIGHT MONTHS, WHEREAS SOME TWENTY-SIX MONTHS ARE SCHEDULED FOR SIMILAR TESTING IN TUFF, AND TWENTY-FOUR MONTHS IN BASALT.

SINCE RESEARCH AT THE SALT SITES IS NOT NEARLY AS FAR ADVANCED AS THAT IN EITHER TUFF OR BASALT, AND SINCE IN-SITU TESTING IN SALT IS NOT EVEN SCHEDULED TO BEGIN UNTIL MUCH LATER THAN THAT FOR THE OTHER MEDIA, THE WHOLE PROCESS BECOMES LAUGHABLE. DOE ATTEMPTS TO JUSTIFY THIS PARTICULAR SCHEDULE ON THE NOTION THAT GENERIC DATA OBTAINED FROM RESEARCH IN WEST GERMANY, KANSAS, AND NEW MEXICO WILL TRANSLATE WITHOUT PROBLEM TO THE SALT SITES NOW UNDER REVIEW. SINCE A PRINCIPAL GOAL OF SITE CHARACTERIZATION IS THE COLLECTION OF DATA FOR PURPOSES OF SATISFYING THE PARAMETERS OF THE NATIONAL ENVIRONMENTAL POLICY ACT, WE CONTEND THAT SITE SPECIFIC, NOT GENERIC, DATA IS ESSENTIAL.

ADDITIONALLY, THE MISSION PLAN PURPORTS TO ALLOW ONLY TWENTY-SEVEN MONTHS FOR NRC REVIEW OF A LICENSE APPLICATION FOR A REPOSITORY, WHILE THE ACT ITSELF ALLOWS THREE YEARS, WITH PROVISION FOR AN ADDITIONAL TWELVE MONTHS, IF NEEDED. AGAIN, DOE REFLECTS ITS CONSUMPTION WITH THE SCHEDULE RATHER THAN THE TECHNICAL CREDIBILITY OF ITS OWN PROGRAM.

FURTHER INDICATIVE OF DOE'S SUBTLE ATTEMPTS TO PERVERT THE TIMETABLE FOR THEIR PROGRAM IS THE INFORMATION IN THE MISSION PLAN REGARDING DETAILED TECHNICAL STUDIES TO BE CONDUCTED DURING SITE CHARACTERIZATION. MAPPING, SEISMIC REFLECTION STUDIES, GEOCHEMICAL TESTING OF GROUND WATER, AND OTHER INVESTIGATIONS SHOULD BE CONDUCTED PRIOR TO THE SINKING OF ANY EXPLORATORY SHAFT, SO AS TO ENSURE THAT THE LOCATION OF THE SHAFT, WHICH COULD BECOME A PART OF THE REPOSITORY ITSELF, IS OPTIMUM. THE DRAFT MISSION PLAN INDICATED THAT SUCH STUDIES WOULD BE PERFORMED CONCURRENTLY WITH THE SINKING OF THE SHAFT, WHILE THE FINAL MISSION PLAN IS EVEN

MORE VAGUE ABOUT THE TIMING OF SUCH STUDIES. OBVIOUSLY, IF SUCH INVESTIGATIONS ARE CONDUCTED PRIOR TO THE SINKING OF ANY SHAFT, THE DOE SCHEDULE WILL BE PROTRACTED, AND THIS, WE THINK, IS THE VERY REASON WHY THIS CRITICAL ASPECT OF THE PROGRAM NOW GETS SUCH WATERED-DOWN ATTENTION. AGAIN, DOE HAS NOT YET LEARNED THAT PUBLIC CONFIDENCE IN THEIR PROGRAM IS BETTER ESTABLISHED BY DEMONSTRATING THAT PUBLIC HEALTH AND SAFETY, AS WELL AS THE ENVIRONMENT, MAY BE PROTECTED THROUGH ALL FACETS OF THE HIGH-LEVEL NUCLEAR WASTE PROGRAM, RATHER THAN BY MERELY MEETING A PREDETERMINED AND ARBITRARY TIMETABLE.

THE PRINCIPAL AND MOST COSTLY ASPECT OF SITE CHARACTERIZATION IS THE SINKING OF EXPLORATORY SHAFTS INTO THE HOST MEDIA. THE MISSION PLAN IS VERY VAGUE ABOUT DOE'S INTENT REGARDING THE USE OF SUCH EXPLORATORY SHAFTS AFTER THEIR USE FOR INVESTIGATIVE PURPOSES TERMINATES. THIS VAGUENESS SUGGESTS THAT DOE IS CONSIDERING INCORPORATING THE EXPLORATORY SHAFTS AND/OR DRIFTS INTO THE REPOSITORY ITSELF. SUCH A DECISION WOULD CLEARLY VIOLATE 10CFR PART 60.3(b), SUBPART A WHICH REQUIRES THE FILING OF AN NRC APPLICATION BEFORE DOE COMMENCES CONSTRUCTION OF THE REPOSITORY ITSELF. DOE SHOULD DECIDE NOW TO EITHER INCORPORATE THE EXPLORATORY SHAFTS INTO THE FINAL DESIGN OR BACKFILL THEM COMPLETELY. OTHERWISE, DOE COULD "SLIP ONE BY" NRC BY CONSTRUCTING THE EXPLORATORY SHAFTS, WHICH MIGHT NOT MEASURE UP TO THE QUALITY ASSURANCE REQUIREMENTS NRC SHOULD IMPOSE UPON THE ACTUAL SHAFTS TO BE USED IN THE REPOSITORY.

WE CONTINUE TO BE CONCERNED ABOUT THE WEAKNESS OF THE DOE PROGRAM REGARDING ALL FACETS OF TRANSPORTATION OF HIGH-LEVEL NUCLEAR WASTE. NOT NEARLY ENOUGH HAS BEEN SAID BY DOE REGARDING UPGRADING

(AND ASSOCIATED COSTS THEREFOR) OF A STATE'S TRANSPORTATION INTRASTRUCTURE, AND WE HAVE YET TO SEE COMPETENT PLANS DEVELOPED TO INSURE SAFE TRANSPORTATION OF THE WASTE MATERIALS THAT ARE SCHEDULED TO BE PLACED IN A PERMANENT REPOSITORY. INDEED, I KNOW OF NO PLAN AT ALL FOR RAIL SHIPMENTS AND THE "PLANNING" THAT HAS BEEN DISPLAYED THUS FAR FOR HIGHWAY SHIPMENTS LEAVES A GREAT DEAL TO BE DESIRED. MOREOVER, DOE HAS NOT YET SUFFICIENTLY ADDRESSED MAJOR QUESTIONS POSED TO THEM BY NUMEROUS GROUPS WHO HAVE BEEN EXPOSED TO THE "PROPAGANDA" FILMS PURPORTING TO DEMONSTRATE THE "FAIL-SAFE" CHARACTERISTICS OF THE TRANSPORTAION CASTS TO BE USED IN HANDLING THE WASTE MATERIALS DURING SHIPMENT.

THE MISSISSIPPI SITES UNDER CONSIDERATION ARE BOTH SALT DOMES. IN AN ATTEMPT TO JUSTIFY ITS SELECTION OF SALT AS A POTENTIAL HOST MEDIUM, DOE CITES CERTAIN "NATURAL HEALING" PROPERTIES AS A POSITIVE ASPECT OF THIS PARTICULAR ROCK. THE TENDENCY OF "CREEP" HAS BEEN OFFERED AS A "PLUS" FOR THIS MEDIUM, BUT DOE, IN CONNECTION WITH THE "RETRIEVABILITY" REQUIREMENTS OF 10CFR 60.111(b)(1), HAS FAILED TO DEMONSTRATE HOW SALT CREEP WOULD NOT CAUSE NEGATIVE CONDITIONS IN THE FUTURE, AND POSSIBLY PREVENT RETRIEVAL OF WASTE PRIOR TO THE LAPSE OF THE FIFTY-YEAR STATUTORY RETRIEVABILITY PERIOD SET FORTH IN NRC REGULATIONS.

THE ISSUE OF FUTURE HUMAN INTRUSION IS NOT ADEQUATELY ADDRESSED IN THE MISSION PLAN. ONLY SCANT TREATMENT OF THE PROSPECT OF USING OUR SALT DOMES THEMSELVES, OR RESOURCES IN OR AROUND THEM, IS FOUND IN THESE VOLUMINOUS DOCUMENTS. IT IS UNDISPUTED THAT DEPLETING SUPPLIES OF HYDROCARBONS, GROUND WATER, AND OTHER RESOURCES WILL LEAD TO FURTHER EXPLORATION OF AREAS OVER, IN, AND AROUND OUR

SALT DOMES. ADDITIONALLY, PRESERVATION OF THESE DOMES FOR THEIR INHERENT VALUE AS A NATURAL RESOURCE, AS WELL AS THEIR POTENTIAL FOR USE OTHER THAN AS PERMANENT TOMBS FOR HIGH-LEVEL NUCLEAR WASTE. MUST BE GIVEN MORE THAN THE MERE SUMMARY DISPENSATION THUS FAR ACCORDED THEM BY THE DEPARTMENT OF ENERGY.

POSSIBLY THE GREATEST UNKNOWN IN THE MISSION PLAN IS THE AMOUNT OF TAX DOLLARS TO BE TAKEN FROM THE AMERICAN PUBLIC TO FUND THE GRANDIOSE UNDERTAKING OF THE DEPARTMENT OF ENERGY INTO, THROUGH, AND AFTER BOTH SITE CHARACTERIZATION AND REPOSITORY CONSTRUCTION. IT MUST NEVER BE FORGOTTEN THAT THE ENTIRE PROGRAM NOW UNDER SCRUTINY IS BEING BOUGHT AND PAID FOR BY AMERICAN CITIZENS WHO ARE HAVING THEIR NET SPENDABLE INCOME REDUCED BY UTILITY PAYMENT SURCHARGES TO SUPPORT THE ENTIRE DOE HIGH-LEVEL NUCLEAR WASTE PROGRAM. ANY SUGGESTIONS IN THE MISSION PLAN THAT THIS PROGRAM IS BEING FUNDED BY THE NUCLEAR UTILITY INDUSTRY IS AN OPEN INSULT TO THE MILLIONS OF TAXPAYERS WHOSE HARD-EARNED INCOME IS BEING EXTRACTED FROM THEM, WITHOUT THEIR CONSENT, TO KEEP THIS SHOW ON THE ROAD.

A POSSIBLE USEFUL ADDITION TO CHAPTER 10 OF THE MISSION PLAN WOULD BE AN ANALYSIS OF THE MONIES AVAILABLE TO THE FEDERAL GOVERNMENT THROUGH THE NUCLEAR WASTE FUND, AND A COMPARISON OF SUCH REVENUES VERSUS ANTICIPATED EXPENDITURES FOR ALL OF THE VARIOUS ASPECTS OF THE DOE PROGRAM, INCLUDING: (1) IMPLEMENTATION OF THE "AUTHORIZED PLAN" WITH NO MRS; (2) IMPLEMENTATION OF THE "IMPROVED PERFORMANCE SYSTEM" WITH NO TIME DELAYS; AND (3) A REPETITIVE ANALYSIS OF EACH OF THESE SCENARIOS INCORPORATING BOTH A FIVE AND TEN YEAR DELAY FOR EACH. THE RESULTS - IF CREDIBLE - SHOULD PROVE TO BE VERY INTERESTING.

YET ANOTHER AREA OF GREAT CONCERN TO US IN MISSISSIPPI, AND ONE THAT WE FEEL HAS RECEIVED VIRTUALLY NO CREDIBLE ATTENTION, IS THE SOCIOECONOMIC IMPACTS OF THE DOE PROGRAM IN THE PAST, AS WELL AS THE ANTICIPATED IMPACTS IN THE EVENT A REPOSITORY OR MRS IS ACTUALLY LICENSED AND CONSTRUCTED. VOLUME 1, PART 2, OF THE MISSION PLAN DEALS EXTENSIVELY WITH GEOLOGIC, HYDROLOGIC, GEOCHEMICAL, AND GEOMECHANICAL RESEARCH, BUT NO SIMILAR RESEARCH IN THE SOCIAL SCIENCES IS MENTIONED. MOREOVER, THE DOCUMENT NOTES, ON MORE THAN ONE OCCASION, SEEMINGLY AS AN ATTEMPT TO JUSTIFY THE WHOLESALE ABSENCE OF CREDIBLE SOCIOECONOMIC ANALYSES, THAT THOSE ENGAGED IN SOCIAL SCIENCES HAVE GREAT DIFFICULTY IN MAKING ACCURATE ASSESSMENTS FOR PERIODS COVERING 90 OR MORE YEARS. HOWEVER, DOE CONVENIENTLY IGNORES THE FACT THAT PHYSICAL SCIENTISTS ALSO ARE HAVING DIFFICULTY PREDICTING WHETHER OR NOT DISPOSAL CANISTERS WILL BE ABLE TO CONTAIN HIGH-LEVEL NUCLEAR WASTES WITHOUT LEAKAGE EVEN WITHIN THE FIRST 30 YEARS OF THEIR EXISTENCE, NUCLEAR ENGINEERS CAN'T ACCURATELY PREDICT INTO THE COST OF NUCLEAR POWER EVEN TEN YEARS INTO THE FUTURE, AND OTHER SIMILAR "PURE" SCIENTISTS HAVE GREAT DIFFICULTY WITH FORECASTS AND PREDICTIONS.

ADDITIONALLY, THE MISSION PLAN CONTAINS SEVERAL GENERAL REMARKS REGARDING SOCIAL IMPACTS WHICH WILL NOT STAND SCRUTINY IN LIGHT OF EXISTING STUDIES REGARDING OTHER "HIGH-TECH" INDUSTRIAL PROJECTS. FOR EXAMPLE, THE ASSERTION IS MADE THAT THE NUMBER OF LOCAL WORKERS IN A REPOSITORY AREA WILL BE A FACTOR IN DETERMINING THE NUMBER OF OUTSIDERS WHO WOULD BE MOVED IN TO FULFILL THE LABOR REQUIREMENTS AND OTHER NEEDS ASSOCIATED WITH REPOSITORY CONSTRUCTION AND OPERATION. CREDIBLE SOCIAL SCIENTISTS INDICATE THAT SUCH A CONTENTION HAS NO MERIT AND, INDEED, THE CONVERSE IS OFTEN TRUE. HIGH-TECH

INDUSTRY TYPICALLY BRINGS ITS OWN MANAGEMENT, AND OFTENTIMES ITS OWN LABOR, TO THE DETRIMENT OF LOCAL CITIZENS WHO, AS IS THE CASE IN SOME AREAS NOW UNDER CONSIDERATION AS REPOSITORY SITES, SIMPLY DO NOT HAVE COMPARABLE INDUSTRY IN THE AREA. THE MISSION PLAN FURTHER SUGGESTS THAT LOCAL SCHOOL SYSTEMS LIKELY WILL REALIZE "POSITIVE" IMPACTS FROM THE CONSTRUCTION AND OPERATION PHASES OF A REPOSITORY, AS WELL AS SITE CHARACTERIZATION ACTIVITIES. HOWEVER, LITTLE DISCUSSION OF "BOOM AND BUST" SCENARIOS IS FOUND. IF SO, DOE WOULD HAVE TO CONFESS THE POSSIBILITY THAT SUBSTANTIAL INVESTMENTS IN SCHOOLS, PUBLIC UTILITIES, AND ADDITIONAL PUBLIC SERVICES ON THE FRONT END OF AN EXTENSIVE CONSTRUCTION EFFORT MIGHT WELL BE EXTREMELY DIFFICULT TO REPAY DOWN THE ROAD DURING SIGNIFICANTLY REDUCED LATER OPERATIONAL CONDITIONS.

ALSO OF GRAVE CONCERN TO MISSISSIPPIANS REGARDING SOCIOECONOMIC IMPACTS IS THE EXTENT OF IMPACTS ALREADY REALIZED IN OUR STATE, AND PARTICULARLY IN THE AREAS PROXIMAL TO THE REPOSITORY SITES UNDER CONSIDERATION. MISSISSIPPI HAS REPEATEDLY REQUESTED FUNDING TO CONDUCT A SOCIOECONOMIC EVALUATION OF THE AREAS SURROUNDING THE TWO SALT DOMES WHICH HAVE BEEN UNDER CONSIDERATION FOR THESE MANY YEARS IN ORDER TO DETERMINE THE SCOPE AND EXTENT TO WHICH THE CITIZENRY, AS WELL AS THEIR PROPERTY AND LIFE STYLES, HAVE BEEN AFFECTED BY ONGOING DOE ACTIVITIES. OUR REQUESTS HAVE NOT BEEN TO GATHER DATA ABOUT CONDITIONS WHICH MIGHT EXIST IN THE FUTURE DURING EITHER SITE CHARACTERIZATION OR CONSTRUCTION OR OPERATION OF A REPOSITORY. WE HAVE SIMPLY SOUGHT ADEQUATE FUNDING TO FIND OUT WHAT HAS HAPPENED TO DATE. CONSISTENTLY, DOE HAS BEEN EXTREMELY HARDNOSED ABOUT OUR FUNDING REQUESTS. WE HAVE BEEN ALLOWED TO

DO ONLY MINIMAL SCOPING OF THE FULL-BLOWN EFFORT FOR WHICH DOE HAS DENIED FUNDING. INTERESTINGLY, THE COMMENTS WE SUBMITTED REGARDING SOCIOECONOMIC ASPECTS OF THE ENVIRONMENTAL ASSESSMENTS FOR THE RICHTON AND CYPRESS CREEK DOMES CAUSED DOE TO COME BACK WITH QUESTIONS WHICH WOULD HAVE BEEN ANSWERED HAD THEY SIMPLY BEEN WILLING TO FUND THE STUDY WE HAVE SOUGHT FOR SO LONG. WHILE OTHER MATTERS OF SOCIAL SCIENCE MAY BE DISCUSSED HERE, MY POINT IS THAT WE ARE GRAVELY CONCERNED ABOUT THE CREDIBILITY OF THAT PORTION OF THE MISSION PLAN WHICH DEALS WITH SOCIOECONOMIC IMPACTS, AND WE RESPECTFULLY SUBMIT THAT WHAT YOU HAVE BEFORE YOU SIMPLY DOES NOT PASS MUSTER FOR THE INTENDED PURPOSE OF THE DOCUMENT.

FINALLY, THE MISSION PLAN CONTAINS THE SAME TRITE, EVASIVE NON-ANSWER REGARDING LIABILITY FOR NUCLEAR WASTE DISASTERS THAT WE HAVE ENDURED FOR THE PAST SEVERAL YEARS. OUR POSITION HAS CONSISTENTLY BEEN THAT THE FEDERAL GOVERNMENT MUST BEAR ABSOLUTE, UNLIMITED LIABILITY FOR ANY AND ALL DAMAGES ARISING OUT OF EVERY ASPECT OF THE NUCLEAR WASTE DISPOSAL PROGRAM. WHETHER A DISASTER OCCURS DURING TRANSPORTATION, WASTE HANDLING, OR ACTUAL DISPOSAL IS IMMATERIAL - THE STATES SHOULD BEAR NO LIABILITY WHATSOEVER FOR ACTIONS TAKEN UNDER THIS FEDERAL PROGRAM, WHICH ULTIMATELY WILL IMPOSE AN UNWANTED BURDEN UPON AN UNWILLING HOST. ATTEMPTS TO LIMIT FEDERAL LIABILITY IN ANY MANNER ARE SIMPLY UNACCEPTABLE.

THERE ARE MANY OTHER AREAS OF A TECHNICAL NATURE WHICH OUR OFFICIALS AND CONTRACTORS HAVE ADDRESSED IN THEIR EXTENSIVE COMMENTS SUBMITTED EARLIER TO DOE AND WHICH, FRANKLY, WE DO NOT FEEL HAVE BEEN ADEQUATELY ADDRESSED IN THE DOE RESPONSES WE HAVE SEEN TO DATE. AS I SAID IN THE BEGINNING, OUR ONGOING REVIEW, ON

A POINT-BY-POINT BASIS, OF THE DOE RESPONSES TO OUR COMMENTS WILL BE COMPLETED IN THE NEAR FUTURE, AT WHICH TIME WE WOULD LIKE TO BE ABLE TO SUPPLEMENT MY STATEMENT HERE TODAY TO GIVE THIS COMMITTEE A BETTER FEEL FOR THE CONCERNS WE HAVE ABOUT THE MANNER IN WHICH DOE HAS APPROACHED AND PUT TOGETHER THIS MISSION PLAN DOCUMENT.

AGAIN, THANK YOU FOR THE OPPORTUNITY TO APPEAR BEFORE YOU TODAY. I RESPECTFULLY REQUEST THAT YOU GIVE CAREFUL ATTENTION TO THOSE MATTERS I HAVE DISCUSSED IN BOTH THIS AND MY ATTACHED STATEMENT, AND I WILL BE HAPPY TO SUPPLEMENT OR AMPLIFY UPON ANY OF THESE POINTS IF YOU SO DESIRE.

TESTIMONY OF
J. I. PALMER, JR.,
ADMINISTRATIVE ASSISTANT TO
GOVERNOR WILLIAM A. ALLAIN, STATE OF MISSISSIPPI

BEFORE THE
SUBCOMMITTEE ON ENERGY CONSERVATION AND POWER
COMMITTEE ON ENERGY AND COMMERCE
UNITED STATES HOUSE OF REPRESENTATIVES

AUGUST 1, 1985

Mr. Chairman and members of the committee, I am J. I. Palmer, Jr., Administrative Assistant to Governor Bill Allain of the State of Mississippi. The statement that I am submitting for the record today is offered in response to the invitation of Chairman Markey to appear before you to discuss the Department of Energy's high-level nuclear waste disposal program. Since Governor Allain was not able to be here today, I am offering this statement for myself, alone.

Chairman Markey's invitation stated that the hearing today is intended to cover the DOE site-selection process for the first geologic repository for the permanent disposal of high-level nuclear waste, and the potential for politicization of that process. However, since the states have been contending with DOE on this matter for seven or eight years now, it is simply not possible in this brief hearing to fully cover all the issues which Mississippi and, I'm sure, our sister states, would like to have presented today. Therefore, I will attempt to address only a few of the serious issues with which the states have been confronted in this seemingly unending and highly frustrating process as examples of the major flaws which plague the whole program. Regrettably, many if not most of our concerns remain unresolved.

In an effort to be responsive to Congressman Markey's invitation, I will first address several illustrative examples of the difficulty we have had in attempting to deal with DOE, and I will then turn to the aspect of political influence in this program. It should be noted at the outset that the current regime at DOE headquarters is, I believe, the fifth in a succession of program directors and staff, each of which has to varying degrees fabricated and played by a different set of rules than their predecessors. As you can well understand, it has been extremely difficult for us to establish any expectancy of consistent dealings with DOE when everything changes, it seems, with the advent of new program staff at the headquarters level. Considering the fact that DOE is now at the point of actually finalizing its recommendations to the President regarding sites for characterization as a possible first geological repository, decisions made by the current headquarters staff which literally abrogate pledges and representations made to us by predecessors in those positions now result in a situation dramatically affecting certain states. I think you are now going to learn that the states and tribes have been flatly denied certain opportunities to participate in the current process in a substantial, meaningful way, having relied to their great detriment on prior promises of full and complete involvement in these critical decisions.

To be blunt, the current DOE headquarters staff has simply reneged on several prior commitments to the affected states and tribes, thus doing great harm to all. It is my personal view that the situation at DOE headquarters was changed radically early in 1984 in an attempt, in desperation, to salvage and get back on track a foundering program which was, and still is, costing millions of dollars. I feel that, in retrospect, it is obvious to all that the initial and principal goal of Mr. Rusche and his staff was to establish momentum for themselves and their program at all costs, with a view toward achieving some very substantial and visible results in 1984 so that they could now stand before Congress and attempt to defend against those who have suggested that this program be removed from DOE and placed elsewhere. The manner in which the DOE headquarters staff operated in 1984, as the state representatives collectively discuss at this hearing, is clearly indicative of their designs in this regard.

Possibly the best example of the problems we have faced in the DOE site selection process is the particular sequence of events leading to publication of the Draft Environmental Assessments (EA's) in December, 1984. The committee should bear in mind that DOE made no attempt to enlarge the scope of its site investigation program after the Nuclear Waste Policy Act (NWPA) became law. Indeed, DOE, at that time, had only nine sites, in six states, under consideration and simply confined its examination of possible repository sites to those already being examined. Absolutely no attempt whatsoever has yet been made to conduct a nationwide screening process in order to evaluate any and all sites in the United States wherein a geological repository for high-level nuclear waste might be constructed. What this means, in short, is that there is a strong likelihood that there are sites other than those now being considered for the first repository which might be far superior, from a scientific, environmental, economic, and even political point of view, but aren't even now being studied. Moreover, in the event that only one repository is ever built, this means that unless all possible sites are evaluated, such a facility would probably not be built where it should be. Thus, the United States Government, through the actions of Congress and the Department of Energy, would actually have done what has been so often charged in this program - find the most expedient means and geographic location to dump nuclear waste material that civilian and military generators are tired of having on their hands. While this solution might not be considered "quick", it certainly would be "dirty."

In November, 1982, Mississippi representatives met with officials of both the Department of Energy and its principal contractor, Battelle Memorial Institute, to discuss issues regarding scientific studies which were contemplated for the "location phase" of the repository project at that time. Also at this meeting were representatives of a "peer review" group which had been established by DOE. Interestingly, Mississippi was the only state represented at this particular meeting. After a full morning of discussion regarding matters which state representatives felt should be incorporated into the "location phase" of DOE's studies, federal officials abruptly announced early in the afternoon session that they were cancelling this entire aspect of the repository program. No explanation or justification whatsoever was given for this precipitous action, and all present concluded very quickly that the only reason for abandoning the "location phase" of the program was DOE's internal decision not to do what Mississippi representatives were seeking. It goes without saying that the "peer review" group was utterly incensed at this blatant action by DOE officials.

I should also mention in passing, for the committee to better understand the relationship between Mississippi officials and the Department of Energy, that the only way we could learn anything substantive about the details of DOE activities in Mississippi prior to 1980 was to file two lengthy Freedom of Information Act (FOIA) requests. These requests were filed in early 1980 after then Governor Winter, believing that the DOE project leaders were deliberately evading our attempts to become involved in the program in Mississippi, imposed a complete but conditional moratorium on DOE field activities in our state. The only condition in the Governor's moratorium was that the Department of Energy had to disclose to the state everything they had done, and all information they had gathered, regarding possible Mississippi sites for a geologic repository. The moratorium was to have existed only until DOE had complied with our request. The moratorium remains in effect today, some 5 1/2 years later, only because the Department has chosen not to fully comply with the simple request that the state made.

Since the committee is interested today in the site-selection process itself, you are already well aware that the environmental assessments were prepared for the nine sites under consideration utilizing information obtained by DOE over the past several years. Data collection activities have varied dramatically from state to state, and the comments already submitted by state and other officials clearly show that any attempt by DOE to distinguish among the sites under consideration amounts to an attempt to literally compare "apples" with "oranges." This glaring deficiency in the site-selection process is exacerbated by the fact that, with respect to the Mississippi sites, no new field information whatsoever has been lawfully collected by Department of Energy since early 1980.

To better understand our frustration at being denied what we have believed to be our rightful role in the process, as not only clearly contemplated and mandated under the Nuclear Waste Policy Act but also insured under the due process and equal protection provisions of the United States Constitution, this committee should well examine the specific manner in which DOE has now arrived at the conclusions set forth in the Draft Environmental Assessments. As already mentioned, prior DOE headquarters regimes, notably that of Mr. Robert Morgan, have by their statements and actions induced the states to believe that we would be given a role of full participation with DOE in developing the details and format for screening, evaluating and ranking specific sites. Indeed, DOE headquarters staff who ultimately developed the so-called "methodology" employed to produce the rankings shown in the Draft Environmental Assessments were also part of Mr. Morgan's team. Specific representations were made to Mississippi officials, before Mr. Rusche's advent into the program, that Mississippi and our sister states would actually help develop the scientific criteria and methodology for site selection and ranking. The first indication that the "new" leadership would ultimately renege on these commitments came with the decision in mid-1984, without prior notice to or discussion with any of the affected states or tribes, to abandon the commitment to produce a Site Recommendation Report. As has already been mentioned regarding the "location phase" of the program which was abruptly abandoned at the close of the November, 1982 meeting with Mississippi representatives, it is obvious, in retrospect, that DOE concluded that preparation of a Site Recommendation Report, which would have encompassed the methodology to be employed in site screening, evaluation, and ranking, would require considerable time and interaction with the affected states and tribes. This would mean that DOE might not be able to achieve what appears to have been the predetermined milestones embodied within Mr. Rusche's initial goal of producing a great deal of visible "product" in

1984, that could be used before the Congress and any other interested group in early 1985, to defend the program.

Elimination of the Site Recommendation Report meant that the states and tribes would have no opportunity whatsoever to actually help shape and mold the site selection process until the environmental assessment documents were prepared. It also meant that DOE would continue to have exclusive control over this process, which would remain unaffected by state or tribal participation. This brings me to what I consider to be the very best example of the manner in which DOE has selectively included or excluded the states and tribes in site selection activities to suit its own predetermined ends, and that is the process which resulted in the release in mid-December last year of Draft Environmental Assessments for the nine sites under consideration.

The states and tribes were told at the beginning of this process that there would be seven chapters in each of the EA's, the key components being those chapters containing comparative analyses of the nine sites and a ranking scheme by which the sites would be presented in order of preference. Over several months, the states and tribes were allowed to critique two of five successive preliminary drafts of four of the seven chapters, prior to preparation of the draft which was released to the public in December. However, and in the face of repeated requests, over many months, by the affected states and tribes for an opportunity to review and critique the three chapters wherein site-selection and ranking was specifically discussed, DOE obstinately refused us any involvement whatsoever in preparation of these three critical chapters prior to their release with the other four in the documents disclosed in December. Indeed, at a meeting with the first-round states and tribes in Skokie, Illinois on November 2, 1984, DOE headquarters staff abruptly announced that they had finally agreed internally upon the "methodology" to be used in site ranking, and offered to conduct a meeting in Washington in early December to "explain" the methodology. The states and tribes immediately asked if we would have the chance to review and critique this material, as had been the case with the other chapters, prior to the arbitrarily selected release date of December 20, 1984. DOE staff flatly refused to allow the states and tribes any influence over this newly developed methodology, whereupon the states and tribes, seeing the futility of any meeting at which we would receive no more than mere "notification" of the DOE decision already cast in stone, declined to meet with the headquarters staff.

It is critical to note here that this confrontation between DOE headquarters staff and the states and tribes over the site-selection and ranking methodology occurred less than one month prior to the date for sending the Draft Environmental Assessments to the printers, and approximately six weeks prior to the scheduled release date of December 20, 1984. It was pitifully obvious to all present that the site-selection and ranking methodology had not even existed some six to seven months earlier when the states and tribes first began to ask for it. That is why our many earlier letters were not even acknowledged, let alone answered. The only reason DOE headquarters staff could give for refusing to allow the states and tribes the opportunity which had been accorded us regarding the other four non-critical chapters of the Environmental Assessments was that the arbitrarily set release date would not be compromised. I and others present at the Skokie meeting pointed out to DOE headquarters staff that all there present recognized the likelihood that release of the Draft Environmental Assessments, with a numerical ranking of the nine sites under consideration, would literally pit the affected states against one another thereafter as adversaries, thus greatly diminishing the possibility of harmonious interstate efforts to critique the contents of the documents in a concerted fashion. I also made note of the fact that, typically, federal agencies entrench into their positions when a major document is released, because to thereafter radically change such documents in the wake of comments and criticisms would be tantamount to an admission that the job had been botched in the first place. Thus, the states and tribes received clear signals that DOE headquarters staff intended to make very few substantive changes in the Draft Environmental Assessments after they were released to the public.

The other point to bear in mind regarding this egregious decision on the part of DOE headquarters staff is that the key reason for denying the states and tribes an opportunity to review and critique the three chapters containing the site-selection and ranking information, as we had been allowed to do regarding the other four chapters, is the unbending decision to meet the December 20, 1984 release date. Again, if DOE had reasonably conducted the environmental assessment process so as to allow the states and tribes a chance to preview all seven chapters of these documents prior to their release to the public, this would have entailed more time and considerably more interaction with the affected states and tribes, thus pushing the release date well into 1985, after Congress had come back into session. In short, holding to the December 20, 1984 release date allowed DOE headquarters staff to chalk up another "milestone" in calendar year 1984 that could be paraded in front of this committee, and the Congress as a whole, in an effort to display their pretended control over the program and all states, agencies, and citizens in the path of it.

Another major activity which I think clearly depicts the enslavement of DOE headquarters staff to their own predetermined goal, as well as their indifference to the rightful concerns of the affected states and tribes, focuses upon the now-disclosed internal effort regarding the Monitored Retrievable Storage (MRS) facility. In virtually every meeting I have attended on behalf of the State of Mississippi during the past year or so at which the MRS was discussed, the states have consistently requested information regarding the status of DOE activities pertaining to the MRS and an opportunity to fully participate in every phase of DOE operations regarding this particular concept. The states and tribes have repeatedly been induced to rely upon the representations of DOE headquarters staff that we would be fully and completely involved in all phases of the MRS effort. The last meeting at which this subject was discussed before this very committee revealed the true state of affairs within DOE occurred in January, 1985, in La Jolla, California, where DOE headquarters staff again represented to the states that we would be fully involved in all phases of the MRS program. Moreover, the states had requested, as far back as the November, 1984 meeting in Skokie, Illinois, a decision by DOE headquarters staff regarding additional funding in our grants for MRS activities.

Now it has been revealed that DOE headquarters staff had been proceeding right along with their internal MRS activities, resulting in identification of over 40 sites and selection of three in Tennessee for further study as potentially acceptable sites. These revelations were accompanied by certain admissions from Mr. Rusche's staff, the most noteworthy being that all this work related to the MRS has gone forward without even notifying the possible affected states, let alone participation by these states. In an attempt to concoct some excuse for not involving affected states in the MRS process, DOE headquarters staff now contend that they are not required to allow any state to participate in this process before they have reached the point where we now find them, because Congress has not specifically "authorized" an MRS. Congress has not "authorized" a second repository, either, but DOE is proceeding leisurely and expensively along with the so-called "second-round" states in the collective development of a detailed methodology for screening, evaluating and ranking potentially acceptable sites in the states. Therefore, the pretended reason now urged by DOE for wholly failing to even tell us about their MRS activities becomes ludicrous on its face.

It should also be noted that the program for developing a site screening and selection process for the second repository is now encompassing particular phases which were deliberately omitted from the process involving the first-round states. The only reason for this glaring disparity of treatment between the two classes of possibly affected states is that the first repository program bogged down for over two years before the current DOE headquarters regime came to Washington. The process by which this new team elected to force the program back on schedule simply meant short-cutting the entire matter in several material particulars. Feeling that they have the luxury of more time regarding the second repository program, and also realizing the increasing speculation that there well may never be a second geologic repository, DOE apparently does not see any pressing need to further pervert or prostitute the second repository program as it has done that in which Mississippi and the other five first-round states and Indian tribes have been engaged.

Yet another example of the kinds of concerns facing us is the manner in which DOE has handled, or mishandled as the case may be, the process of awarding grants to the affected states and Indian tribes for participation in the high-level nuclear waste program. To give but two examples, I would first point out the fact that Mississippi has been denied a request for funds to conduct certain seismic studies in the area of the sites being considered in our state. It is interesting to note that the March, 1985 edition of a publication called The Recorder, which emanates from Kinemetrics, in Pasadena, California, reported that the Department of Energy has now purchased an elaborate seismic telemetry system from a Long Beach, California firm, to be used in studies in south Mississippi. The central station, incidentally, is to be located in Hattiesburg, Mississippi, which is approximately 25 miles west of the Richton Salt Dome, the prime DOE target in our state. After our request to do seismic work was flatly denied, we now learn of DOE activity related to the same subject by reading about it in a trade publication.

I would also note that Mississippi has repeatedly requested, and been denied, adequate grant funds to conduct a socio-economic study of the area in Mississippi already impacted by the DOE high-level nuclear waste program. Such a study is essential in order to determine what effects are already demonstrable as a result of the DOE activity which has been going on in our state for eight years or longer. You should remember that, of the nine sites under consideration by DOE in the first repository program, only the Richton, Mississippi, site has people, residential dwellings and other structures and a portion of the town itself physically situated over the geologic feature in which DOE proposes to construct a repository. This is the principal reason for our concern about the socio-economic impacts which we can document right now. For example, citizens in the impacted area have seen their property values decline, making sales difficult, if not impossible. Prospective purchasers are simply not interested in the area because of the taint left by the federal government's lingering interest in the Richton Salt Dome as a nuclear waste dump. How these impacts translate into other negative effects, which are not readily quantifiable, is not yet known, and will become known only if we are able to conduct a sound socio-economic evaluation of this area covering these past several years. The Department of Energy has, in grant awards to other of our sister states, approved requests for socio-economic studies in areas where the direct impact upon people, both individually and collectively, and upon a municipal corporate body, simply don't exist. We have contended, and still do, that the refusal of the Department of Energy to fully fund a thorough socio-economic study of our design, and under our supervision, is blatantly arbitrary and unfounded.

As was the case with our requests for a seismic study, we have learned only recently that DOE proposes to conduct, and has issued a formal request for proposals regarding, a socio-economic evaluation of the salt site selected for site characterization, to which we have already objected in prior meetings with DOE headquarters staff. Our objections have not been resolved and there have been no productive discussions between Mississippi officials and the Department of Energy regarding socio-economic issues since our January, 1985 meeting. The latest brainstorm by DOE is to contract with the National Academy of Sciences to conduct what appears to be a "generic" or, in our view, a "windshield" socioeconomic study for some, or all, of the top five sites under review. Again, we would likely not get what we need.

One final point regarding the incessant, exasperating difficulties with DOE headquarters staff is that DOE represents to this committee, and Congress as a whole, and to the public, that conclusions and recommendations being made even today regarding the several aspects of the high-level nuclear waste program have emerged from that esoteric relationship defined in the Nuclear Waste Policy Act as "consultation and cooperation." Under pressure from both DOE and the nuclear utilities, Congress denigrated the role of the states and tribes in the entire high-level nuclear waste program by changing the originally proposed statutory terminology from "concurrence" to "cooperation." Obviously, this gave the federal government the option to steamroll over any or all of the affected states and tribes as it might please, there being no statutory requirement that any negatively impacted state or tribe concur or agree with federal decisions. Be assured, the agency which got the high-level nuclear waste program from Congress is delighted to be able to do, and it has done, what was envisioned when this section of the Nuclear Waste Policy Act was watered down.

Of interest, in September, 1984, Mr. Rusche's staff initiated a series of meetings with the "first-round" states and tribes which continues today. The next meeting, by the way, is scheduled for August 8 and 9 in Denver, Colorado. Representatives of the DOE headquarters staff and the six first-round states and Indian tribes have met at various places across the United States to discuss a list of some twenty-four or so major issues generated at the first meeting last September. To date, after spending hours around conference tables and more hours traveling to and from these sessions, there has been very little substantive progress on this list of issues which directly impact the relationship between the Department of Energy and the states and tribes, and thus the entire program. Indeed, one of the principal issues identified last September is the DOE interpretation of the "consultation and cooperation" requirements of the Nuclear Waste Policy Act and how DOE proposes to comply with these statutory requirements. There has been absolutely no resolution of this issue, and yet in virtually ever piece of correspondence received from the DOE headquarters staff the language is carefully drawn to bring whaever matter is being discussed under the guise of "consultation and cooperation." As my friend and colleague from Texas, Mr. Frishman, once astutely remarked, this seemingly endless series of expensive and time-consuming meetings with DOE headquarters staff, and all the attendant paper flow associated therewith, has amounted to nothing more than an attempt by DOE to "make a record of making a record " because now they can display for you all these meetings, with their associated costs, and pretend thereby to make a case for their having made a good faith effort to deal responsibly with the affected states and tribes as Congress mandated in the Nuclear Waste Policy Act. Again, while the states and tribes, I am sure, are willing to meet with DOE representatives anytime and anywhere in an effort to make substantive progress on real issues, such has not been the case over the past year. Yet, representations continue to be made that DOE is actually engaging in a "consultation and cooperation" effort, which literally has not yet even been defined.

A clear and recent example of the continuing attempt by DOE to warp even correspondence so as to make a record for their own predetermined purposes involves a letter which Mississippi officials sent to DOE headquarters staff announcing our intention to meet their arbitrarily set deadline for submitting comments on the Draft Environmental Assessments. While we stated our objection to the unreasonably short review period, we also clearly stated our intention to comply. The letter which we received in response recited the receipt by DOE of our correspondence "regarding our request for an extension of time" within which to submit our comments. Of course, nowhere in our correspondence did we ask for any extension of time, and in fact, our comments were personally delivered on the due date. Again, the point is that little things like this continually portray the DOE intention to make a record favorable to itself, even if it means subtly perverting the substance of meetings, correspondence, or other manifestations of this particular federal-state relationship.

I should note in passing that at the last meeting between DOE headquarters staff and representatives of the "first-round" states and tribes in Baltimore on May 2-3, 1985, Mr. Rusche said of his handling of the MRS activity that, in essence, the "product is worthwhile even though the process may have been flawed." Indeed, at a large subsequent meeting in Kansas City on May 14-15, 1985, DOE headquarters staff flatly announced to all in attendance that Mr. Rusche has become increasingly concerned that his staff is spending more time on "process" than on "product." These revelations simply confirm my feeling which, I dare say, is likely shared by representatives of my sister states on the panel today, that the touchstome of the entire DOE siting program is the old adage "the ends justify the means."

What I have attempted to do to this point is merely cite a few examples of the many concerns which Mississippi officials and citizens, as well as our counterparts in our sister states and tribes, have repeatedly raised, to no avail. DOE habitually attempts to justify every aspect of their program by predicating their moves on the contention that the high-level waste issue is a "national" concern. If that in fact is the case, then there should be a "national" solution to the problem. However, it is obvious at a mere glance that the DOE program as it is presently constituted cannot in any way be characterized as "national" in any sense of the word. There were nine sites under consideration prior to passage of the Nuclear Waste Policy Act, and there remain only nine sites under consideration today. If high-level nuclear waste is to be buried in the safest fashion possible, then the only way to find the single best site, all things considered, is to conduct a national screening effort in the beginning. The result of that process would be identification of the several top sites in this in this country, the first of which would be chosen for the initial repository. In the event a second or subsequent repository is needed, the site investigations would have already been completed. As I have related to you today, the Department of Energy is not now conducting, nor has it ever in the past even pretended to conduct, such a nationwide program. Therefore, the end result will be only the most expedient - certainly not the best. Indeed, DOE now attempts to justify its tactics by saying there is no "best" site, and the nation can get along with a merely "acceptable" one -- "acceptable" to DOE, that is.

Turning now to the matter of political influence in this program, I must say at the outset of my discussion of this topic that I will not undertake to deal in great detail with all the political intrigue which is documentable regarding the high-level nuclear waste program. Political influence has been prolific and very effective, but cannot be viewed, in point of time, merely from the passage of a Nuclear Waste Policy Act forward. This committee, and Congress as a whole, well understands and must admit that political influence in this program was prominent several years prior to passage of the 1982 legislation. For instance, by the time Mississippi officials began investigating DOE activities in Mississippi in early 1980, the Department had already been politically evicted from several states, including Kansas and Michigan. Moreover, a classic example of political manipulation of the high-level nuclear waste program was already documentable with respect to DOE activities in the State of Louisiana. You have no doubt heard reference to the Louisiana "veto", and I will not belabor the point by going into great detail here. The point to be underscored is not so much exactly what was done, but that these things were done at all. While, to my knowledge, DOE has not taken an official position regarding its contractual obligations to Louisiana, except to the extent that the Administration's position has been reaffirmed in communications from the President to Louisiana officials, DOE headquarters staff are quick to point out that the events surrounding the execution of the Louisiana contract in question occurred prior to passage of the Nuclear Waste Policy Act, and readily contend that the relationship between the federal government and other states regarding this issue is now governed exclusively by the 1982 legislation. If the Federal Government now refuses to accord any state other than Louisiana the options set forth in the Louisiana contract, on the basis that the 1982 Federal Legislation does not permit such, that is tantamount to saying that the Federal Government, by Congressional edict,will discriminate in favor of one state, to the detriment of all others. Of course, such a notion is utterly preposterous, if the Constitutional guarantees of due process and equal protection under law still mean anything.

It has also been asserted that the contractual privileges given Louisiana have been preserved in favor of the other states by the so-called "veto" provisions of the Nuclear Waste Policy Act. However, such a contention literally falls of its own weight upon the realization that a state veto under the NWPA may be overriden by majority vote in both houses of Congress. Such is not the case with the perogative available to Louisiana which, according to the contract which grants it, is not subject to being overriden. Again, the point is not so much the nature of the thing done, but the mere fact that it was done, and for one state only.

Congress must also confess the reality that political influence was rampant in the process of passing the Nuclear Waste Policy Act itself. The nationwide screening process I have mentioned was actually included in the act at one point, but was removed under pressure from various sources for fear that the conduct of a respectable nationwide scientific investigation to find the best site for a geologic repository for high-level nuclear waste would simply take too long. Elimination of this feature permitted DOE to do what it now had done, and that is to "shortcut" the entire process for the sake of expediency.

I am sure that many of you have read reports of certain events directly involving the DOE program, and high-ranking DOE officials, that occurred during the 1984 Presidential campaign. As you will recall, former Secretary of Energy Hodel, in active campaigning for certain candidates in Texas, and Louisiana, made remarks to the effect that because of the political influence of the candidates in question, certain sites would likely not be considered. Of course, attempts were subsequently made by DOE officials and others to "interpret" or "translate" the remarks of the Secretary to make them appear to be simply reflective of the so-called "veto" provisions of the Nuclear Waste Policy Act. Notwithstanding the attempts to "unsay" what was clearly said and reported in the media, there was no way, in this instance, to make "a molehill out of a mountain." Frankly, if this committee or any other body were really interested, I am confident that an investigation would reveal substantial political influence in other activities, such as Congressional field hearings related to the high-level nuclear waste issue which were conducted during the waning months of the 1984 state and federal election campaigns. Of course, no one will be able to close the books on this particular aspect of the high-level nuclear waste program until the ultimate decision regarding a repository is made by the Department of Energy, recommended to the President, and then acted upon by the Congress.

In closing, I would ask the committee to bear in mind the position that we have taken with respect to the federal-state relationship in the high-level nuclear waste program. From time to time certain DOE officials have insisted that we are engaged in a "partnership" or veritable "joint venture", if you will, wherein the states and federal government mutually work toward an ultimate decision. However, such would have been possible only if the states had been given their rightful role in the process all along, and DOE had set about many years ago to conduct the kind of nationwide study which should have been required by Congress. This not being the case, the federal government now finds itself choosing a site by the use of a process which is adversarial by nature, and certainly not a mutual undertaking. By way of analogy, I view the process as one very similar to that of a criminal prosecution. The entire burden of proof is placed squarely at the doorstep of the government, which seeks to have its determination imposed upon an unwilling party. In this case, DOE bears the sole and complete responsibility to prove, by the use of credible and complete scientific and other information, properly collected and evaluated, that a particular site is, indeed, the most preferred as a location for a permanent repository for high-level nuclear waste. The states and tribes bear no burden whatsoever with respect to their defense. As in a criminal case, if the government fails in its proof, it cannot enforce its will. To be blunt, we do not believe that the federal government has made its case with respect to either the Richton or Cypress Creek Salt Domes in our state which, in our view, may not be legitimately considered at all until a true national screening process is accomplished. Even to the extent that these salt domes have been considered, we believe that we have already demonstrated in our review of the Draft Environmental Assessments for these sites that DOE has wholly failed to meet its burden with respect to gathering and evaluating the data essential to even make an intelligent judgment, let alone thereafter compare that judgment with similar ones for the other sites being considered.

Many other aspects of the high-level nuclear waste program could be considered here today, but I think the points I have made adequately reflect the nature of our concerns and, hopefully, will lead to futher inquiry by this committee and others. I appreciate the opportunity to appear before you today and to speak to the issues at hand.

Respectfully submitted,

J. I. Palmer, Jr.

J. I. Palmer, Jr.
Administrative Assistant
to the Governor of Mississippi

Senator **Domenici**. Mr. Steve Frishman, director of the Office of Nuclear Waste, Office of the Governor, State of Texas.

STATEMENT OF STEVE FRISHMAN, DIRECTOR, TEXAS NUCLEAR WASTE PROGRAMS OFFICE, OFFICE OF THE GOVERNOR, STATE OF TEXAS

Mr. **Frishman**. I'm Steve Frishman. Thank you, Mr. Chairman. And I too will be, with your permission, providing detailed testimony for the record. You have a summary of my testimony and I think, given that many of the same things are appearing in the comments that you've already heard and will hear, I'd like to digress from that and speak directly to a couple of major issues that have come up, but I'd like to speak to them in a slightly different way maybe.

First of all, I do associate myself with the comments regarding consultation from Mr. Palmer.

The area of technical credibility in this program right now has become almost a buzz word for the program and, to my knowledge, there are few who are satisfied with the level of technical knowledge regarding the first round sites, satisfied in the sense that would you not believe there is sufficient information at this point to make the types of decisions the Department of Energy is about to make.

We realize that at the time of passage of the act, the Department of Energy was convinced there were sufficient data then to recommend sites for site characterization. We don't think that they had it then; we don't think the situation has significantly improved since that time.

The guidelines don't help us in that line either because they do not really require hard data in order to make decisions, and this is a point of dissatisfaction that came from all of the States and tribes during the formulation of those guidelines.

The mission plan has a number of areas in it that again test the credibility, the technical credibility of the program. I'd like to point out one that I think is of particular importance in how it progresses and what its progressive or cumulative results might be.

The schedule for the progress of the program is continually slipping, as you heard this morning, for various reasons, whether we agree with those that were put on the record or not. That slippage is not being accommodated on the back end of the schedule. The 1998 date is being held firm; everything is compressing toward 1998.

This is critical to our point of view, primarily in the area if site characterization. Where the compression has settled is primarily in the area of site characterization, the real technical work that is necessary to support a determination of suitability. I don't want to get into the argument of preliminary or final, but the necessary work to support a determination, first, on the part of the Secretary, and then possibly on the part of the Nuclear Regulatory Commission.

This problem of compression gets even worse when you look at the schedule of the mission plan more closely and you see that it is virtually impossible to determine what constitutes the end of site characterization. The schedule lays out a point at which a repository site recommendation will be made. The schedule also indicates that there will be continued technical work to support a license application after that decision is made.

This does not, in our mind, comply with section 114(f) of the act, and this is another feature of 114(f) that we may want to talk about.

The requirement for the timing of writing the environmental impact statement to support a repository site recommendation is explicitly stated to be when site characterization is completed according to the requirements of section 113.

We are seeing in this schedule, the fact that site characterization, whether the Department wants to call that continued technical work after repository recommendation site characterization or not is immaterial; the work is site characterization. It fits within the description of site characterization.

We maintain that you must have all data in hand in order to write the EIS and in order to write a license application. And I think you heard this morning from the Commission that much of the Commission's activity in licensing is going to be dependent not only, as Chairman Palladino said, on a high-quality application, but also on a complete application. The mission plan schedule is designed to where that application will not be complete at that time, from all we can read in the mission plan.

I'd like to also pick up on Mr. Larson's comments about restarting this program. I recognize your position about the impossibility of that. We see some real efficiency in at least considering that, and rather than redescribing his proposal, what I would like to do is offer for your consideration a mechanism whereby the Congress, at the same time it's determining its position on the MRS, which is now designed to be integral to the repository program, where the Congress can evaluate the entire program at the same time.

And what I'm proposing, and this proposal has been made before by me on the House side, is that the Department of Energy be requested to do, over the next 3 or 4 months, or 5 months, a feasibility study regarding the time and cost implications of going back and establishing a set of objective guidelines, rescreening the Nation, and returning ultimately to a point with some technically credible sites to where we are now, ready to nominate and recommend sites.

That proposal we have made before. We think that in the overall scheme of the efficiency of this very long-term program, there is real value in evaluating now rather than evaluating after the dollars and time have been spent.

I did note with pleasure your interest in the real—your perception of the real value of a C&C agreement. You indicated that it would provide a neutral environment for conflict resolution and an opportunity to stop and evaluate scientific benchmarks and, if I have your wording correct, "and make people redo things."

I'm not sure we need a C&C agreement at this point to at least evaluate whether redoing this program from the start is cost-effective and ultimately a success-oriented move.

Thank you.

Senator **Domenici**. Thank you very much.

[The prepared statement of Mr. Frishman follows:]

Testimony of

Steve Frishman, Director
Texas Nuclear Waste Programs Office
Office of the Governor

Before the
Senate Energy and Natural Resources Committee
Subcommittee on Energy Research and Development

September 12, 1985
Washington, D.C.

SUMMARY

The Department of Energy's implementation of the Nuclear Waste Policy Act, since its adoption, has led to a continuing history of conflicting interpretations of the Act and its intent between the DOE managers and affected States, Indian tribes and the interested and affected public. The ongoing and increasing list of conflicts without satisfactory resolution has brought us to the point of having serious concerns over whether the current DOE program, as outlined in the Mission Plan has a reasonable probability of arriving at the desired goal - the safe permanent disposal of high-level nuclear wastes and spent reactor fuel.

The growing list of conflicts includes the following:

Schedule - The continued slippage of the early milestones of the NWPA schedule have no compensatory adjustment planned for the 1998 date set for beginning waste acceptance. This results in a program schedule that continues to compress the period of time allocated for the extensive investigations necessary for site characterization, to a point that the few months planned for in-situ studies prior to a recommendation of a repository site severely tests the technical credibility of the DOE program. This raises additional questions regarding the schedule of work and milestones presented in the Mission Plan. For example, the Plan indicates that site characterization activities will continue after a repository recommendation and for some possible period of time after submission of a license application. An unanswered question exists as to when site characterization ends, and what decisions will be made prior to the end of that investigation, especially in light of the planned lack of parallelism in the site characterization effort and schedule at the sites proposed to be characterized.

Preliminary Determination of Suitability - The Mission Plan sets out that this required decision will be made prior to site characterization and establishes a level of certainty for the determination that cannot be asserted at that time, even according to the DOE's own guidelines for site recommendation. This is a result of the acknowledgement that there are insufficient data available prior to site characterization to apply all of the guidelines. The timing of the preliminary determination of suitability, as stated in the NWPA, seems to be quite clearly after site characterization, especially in light of the NWPA calling for the Environmental Assessments for site nomination containing an assessment of the site's suitability, at that time, relative to those guidelines that do not require site characterization. In addition, the DOE's guidelines call for the guidelines that can be applied being used in the EAs to serve as the basis for both the nomination and recommendation decisions.

Consultation and Cooperation - Since passage of the NWPA there has been an unresolved dispute over the meaning, and practical application of the term "consultation". The DOE has attempted to equate consultation with keeping the statutorily affected parties informed of the program developments and decisions. The alternative position, to which we subscribe, holds consultation to include the opportunity for affected parties to be involved in the program decision process at an early point, when decisions are being formulated, so that our knowledge and input can be considered in the developing decisions. Improvements in resolving this conflict have been promised at various times, yet none have been forthcoming to date, which contributes to an extremely low level of confidence in the program's implementation at the current time.

We have proposed numerous times during the past year that the program can be corrected and put on a significantly more sure level of technical credibility and resulting public confidence if it is halted now and reinstituted under direction to establish an objective set of site recommendation guidelines, have these guidelines serve as the basis of a comprehensive re-screening of the entire nation for a set of credible sites with an improved probability of ultimately being found acceptable for development of a repository, and the nomination-recommendation process then reinitiated.

The cost and schedule implications of this proposal should be seriously studied and compared against the consequences of continuing with a program of implementation in which few of the affected parties have any significant level of confidence. This recommendation is especially important in light of the Mission Plan proposal for the development of an integrated Monitored Retrievable Storage (MRS) in the repository system. The Congressional authorization for the MRS, that will be sought by the DOE in January, 1986, should not be reviewed in isolation. Rather, it should be reviewed by the Congress in the context of the entire current program into which it is proposed to be integrated, and then reflected against the best possible judgement regarding its potential success in resulting in a safe disposal system for high-level nuclear wastes and spent reactor fuel.

Senator **Domenici**. When I alluded to redoing things, I've only seen one; it didn't contemplate redoing the whole program, but it did contemplate stopping and starting the whole series of tests over again and bring in some other experts, reevaluate this, that, or the other. I've seen that in the one that exists in my State. That's what I meant with reference to that.

Mr. **Frishman**. Well, what we are proposing is that the technical problems currently are so large relative to the nine sites that are out there, that a small fix is really not a fix. It's going to take a major fix, I think, and a number of us think, if we're ever going to arrive at a repository out of this program at whatever date it finally is done.

Senator **Domenici**. Thank you very much. And your statement will be made a part of the record.

Mr. **Frishman**. Thank you.

Senator **Domenici**. Mr. Robert Loux.

STATEMENT OF ROBERT R. LOUX, DIRECTOR, NUCLEAR WASTE PROJECT OFFICE, OFFICE OF THE GOVERNOR, STATE OF NEVADA

Mr. **Loux**. Mr. Chairman, Senator Hecht, I am Robert Loux, director of Nevada's Nuclear Waste Program. I certainly appreciate the opportunity to be here today. And I have also submitted for the record detailed comments and also comments on the draft mission plan, as our review of the final is not yet complete.

While there's a whole host of issues that are of concern to the State of Nevada in the mission, perhaps none are as significant as the timing of the preliminary determination of suitability, and it's on this issue that I'll direct my remarks today.

It will come as no surprise, I guess, that Nevada disagrees with the Department's interpretation of section 114(f) of the act. We believe that the statute is crystal clear. From a common sense or pragmatic perspective, it only makes good sense to make this determination as late as possible in the process, with as much information and data as possible. Otherwise, the program runs at risk.

There doesn't seem to be any compelling reasons to make the preliminary determination now. The only one I have heard is that DOE wants to make it now so that they will not have to have had three fully qualified sites emerge from the site characterization process.

From a statutory perspective, a mere application of the fundamental principles of English grammar preclude any other interpretation. In simple straightforward English, the act requires the Secretary, in drafting his final EIS, to consider his alternatives, three candidate sites where characterization has been completed and where he has made a preliminary determination that such sites are suitable for development as repositories.

And I cannot agree with any claim that the language is not clear or supports the Department's position.

Regarding legislative history, it is true, Mr. Chairman, that during the discussions between the House and the Senate prior to the passage of the act, that the Senate added to the relevant sentence in 114(f), the language "consistent with the guidelines promulgated under section 112(a)."

It is noteworthy, however, that the Senate amendment reflected and referred to all of the guidelines and as you are aware, Mr. Chairman, nearly half of the siting guidelines require site characterization to be completed before it can be determined if a site meets them. Given that situation, it seems that the Department's position directly violates their own siting guidelines, as I've mentioned, that clearly require site characterization to be complete.

It's also interesting to note that the section of the act referring to the preliminary determination of suitability is contained in the section of the act that discusses the final EIS and not the section on nominating or recommending sites for characterization.

Further, 114(f) requires the Department to make a preliminary determination of suitability for development as a repository and not for characterization. And finally, one brief observation with respect to the meaning and use of the term "preliminary." I suggest that the meaning and use of that term is appropriate to any determination or action the Department will make, since the Secretary or the President, for that matter, can never make the ultimate determination that a site is suitable for development as a repository. The act reserves that right only to the NRC.

Thus, any action taken by the Department regarding site suitability for development as a repository is preliminary. One additional issue in this same regard greatly disturbs me. The passage from the Department's mission plan highlights its concerns and illustrates the fallacy of the Department's interpretation of 114(f). At page 142 of volume 2 of the mission plan, the DOE states: "A preliminary determination of site suitability means that there are no geologic, hydrologic, or engineering data that prove the site is not suitable for further investigation."

It is simply ridiculous to say that 114(f) requirement can be satisfied by determining that there is no geologic, hydrologic, or engineering data that prove the site is not suitable for further development. That test can be satisified nearly anywhere in the country, and implies that the less information and the less data available, the better, since the lack of information means that there is nothing to prove that the site is unsuitable for further study.

Such interpretation simply defies logic. But, more importantly, Mr. Chairman, this interpretation shifts the burden of proof from DOE to prove suitability to some other party, perhaps the States, to prove unsuitability. This is an issue that I think is of paramount importance in looking at the preliminary determination. It's no longer an issue now that DOE will have to prove the site is suitable, but up to someone else to prove it's unsuitable.

I might add in our comments on DOE's draft environmental assessment for Yucca Mountain, I assume the sole basis for the determination is the EA's that we were speaking of. We have found the presence of at least four disqualifying conditions at Yucca Mountain, as defined by DOE. So how the site at this time, without any discussion of these disqualifying conditions or resolution of them, can be determined to be even preliminarily suitable is certainly in question.

In conclusion, Mr. Chairman, we have guidelines that don't screen out any of the DOE's preferred sites. EA's have been routinely criticized as inadequate and containing faulty data. Now DOE wants to make the preliminary determination before characterization and states that they only need one site to survive characterization in order to select a single site for development.

I would submit this is a formula for disaster and sets the stage for a railroad job on a particular single site if they so choose. It is precisely this situation I believe Congress sought to preclude from coming to pass by including the preliminary determination of suitability in the law to be made at the conclusion of characterization.

Mr. Chairman, I believe our job is to assure that if Nevada is selected for development as a repository, it has been done so based on sound, technical, rational data and not in spite of it.

Thank you.

[The prepared statement of Mr. Loux follows:]

REMARKS OF ROBERT R. LOUX

Director, Nuclear Waste Project Office

The Dept. of Energy's Mission Plan

Senate Subcommittee on Energy Research

And Development

September 12, 1985

Mr. Chairman, and members of the Committee, my name is Robert R. Loux, Director of Nevada's Nuclear Waste Office, representing the State of Nevada. I appreciate very much the opportunity to submit these remarkds today on behalf of the State. While I have submitted written comments on the Department's Mission Plan for the record encompassing a variety of issues contained therein, I believe that the most critical issue to emerge is the timing of the preliminary determination of suitability as required by section 114 (f) of the Nuclear Waste Policy Act.

It will come as no surprise, I believe, to learn that the State of Nevada does not concur with the interpretation of Section 114 (f) of the NWPA by the Department of Energy, particularly its view as to the timing of the preliminary determinations of site suitability.

Let me very briefly explain Nevada's view as to the appropriate construction of that section, and what it requires of the Secretary of Energy. I intend no detailed legal analysis or argument, but merely wish to highlight certain points which we think support Nevada's, and other states, views on this matter, and to touch upon the State's concern that determinations of suitability, with great potential to effect the health and safety of its citizens, be made with as complete information as possible.

First, of course, central to a proper interpretation of Section 114 (f) are answers to two critical questions: 1. At what point in the site selection and characterization process is the Secretary required to make his preliminary determination of site suitability?; and 2. Must the Secretary preliminarily determine, after the completion of site characterization, that a minimum of three sites are suitable for development as repositories? We answer those questions differently than the Department; that is, the preliminary determination of suitability must be made only upon the completion, or at least substantial completion, of characterization activities at all three sites, and the Secretary must make the preliminary determination that three sites are suitable for development as repositories.

Let me state briefly some points which I think support the correctness of Nevada's view as to that timing.

First, the language of the critical sentence in Section 114 (f) itself supports that position. The mere application of fundamental principals of English grammar, we feel, preclude any other interpretation. In simple, straightforward English Congress has told the Secretary that, in drafting his final environmental impact statement, he shall consider as alternates three candidate sites where (1) site characterization has been completed, and (2) where he has made a preliminary determination that such sites are suitable for development as repositories. Had Congress chosen to internally invert (1) and (2) some support for the Secretary's view that the preliminary determination of suitability can take place at the commencement, rather than the completion, of characterization might be found. But Congress did not choose to write that sentence in the manner in which the Secretary reads it.

The Department's interpretation also ignores, Nevada submits, the language of Section 114 (a) (1) (D) which requires the Secretary to make available to the public and submit to the President a comprehensive statement of the basis for his recommendaiton of any site for a repository, to include: "(a) final environmental impact statement...... including an analysis of the consideration given by the Secretary to not less than three candidate sites for the first proposed repository or to all of the characterized sites for the development of subsequent repositories, with respect to which characterization is completed under Section 113, ... (Emphasis supplied). That language clearly requires the Secretary's consideration be given only to sites at which characterization is complete.

The legislative history of the NWPA also supports this interpretation. In the floor debate proceeding passage of HR 3809 in the House of Representatives on December 2, 1982, Congressman Ottinger, whom, you know, was chairman of one of the principal subcommittees in the House with jurisdiction over the nuclear waste legislation, and who was intimately involved in fashioning the final version of the act, explained the provisions of Section 114 (f).

Congressman Ottinger said, for example: "The Secretary is required, with respect to alternative sites, to make a preliminary determination of suitability. It is envisioned that this preliminary determination would occur late in the site characterization program. It would make little sense for this determination to be made prior to testing at-depth, and consequently prior to a detailed understanding of the site's geologic characteristics.

In addition to the preliminary determination of site suitability, there is the requirement that site characterization activities be complete at the three sites. The intent behind this requirement is to once again insure that all sites being characterized are given equal consideration as to their suitability to prevent the site selection process from becoming a stacked deck for or against a specific site". These remarks are found, Mr. Chairman,at page H8796 of the December 2, 1982, Congressional Records.

It is true that the Senate added, to the relevant sentence in Section 114 (f), the language "consistent with the guidelines promulgated under Section 112 (a)". It is noteworthy, however, that the Senate amendment referred to all of the Section 112 (a) guidelines, and not only to "each such guideline that does not require site characterization as a prerequisite for application of such guideline".

Finally, one brief observation with respect to the meaning of the word "preliminary". We suggest that there is a very valid reason for the selection of that word by the Congress. The Secretary, under the NWPA, never makes the ultimate determination that a site is suitable for development as a repository. Neither, for that matter, does the President, who only recommends to Congress a site which he considers qualified for the application for a construction authorization. It is then the Nuclear Regulatory Commission which makes the ultimate or "final" determination that any site is suitable for development as a repository, by issuing a construction authorization and a subsequent license to receive and possess. Thus any action with respect to a determination of site suitability by the Secretary, taken at any point in the program, including the completion of site characterization activities, is by its very nature preliminary, because under the Act the final decision in that regard has been reserved by the Congress to the Nuclear Regulatory Commission.

There are very sound reasons, of course, why Congress chose to write section 114 (f) as it did, and why Nevada takes the position that it expresses here today. Both common sense and responsible scientific methodology require, we submit, that any preliminary determination of site suitability follow, rather than proceed, the completion, or at least substantial completion, of site characterization activities. In any program of this nature, with the potential for such adverse impacts on the public health and safety, and the quality of environment surrounding the repository, substantive decisions should be made as late as possible. It makes no sense whatsoever to make such determinations prior to the onset of the detailed scientific investigation. That is, we suggest, tantamount to asking a jury to preliminarily determine the guilt or innocence of an accused before testimony has even commenced.

A passage from the Department's Mission Plan highlights the fallacy of the Department's interpretation. At page 142 of volume II of the Mission Plan, the Record of Responses To Public Comments, the Department says: "The DOE's preliminary determination of site suitability means that DOE believes a site warrants further investigation or characterization . . . . a preliminary determination of site suitability means that there are no geologic, hydrologic, or engineering data that prove the site is not suitable for further investigation."

Two points, demonstrating the weakness of the Departments interpretation, are immediately obviously from that quoted language. First, section 114 of the Act does not say that the Secretary shall make a preliminary determination that a site "warrants further investigation or characterization". The Act says that the Secretary shall consider as alternatives three sites at which he "has made a preliminary determination that such sites are suitable for development as repositories consistent with the guidelines promulgated under section 112 (a)." There is a world of difference between determining that a site is suitable for further investigation or characterization, and that a site is suitable for development as a repository. Yet the Department obviously equates the two.

Secondly, its simply ridiculous to say that section 114 (f)'s requirement can be satisfied by determining that there are no geologic, hydrologic, or engineering data to prove that a site is not suitable for further investigation. That test could be satisfied almost anywhere in the country. All DOE would have to do is locate a site which was not disqualified because of the population factor contained in section 112 (a) of the act, and did not sit astride a major active fault or volcano, and it could be said that no data exists which proves that the site is not suitable for further investigation. Indeed, under that language, the less information and data available the better, since no information means that there is nothing to prove that a site in unsuitable for further investigation or characterization. Such an interpretation makes an absolute mockery of not only the language of section 114 (f) but Congress' intent in choosing that language.

Let me suggest a worse case scenario which could easily flow from acquiescing in in the Departments suggested timing of its preliminary determination. Suppose, for example, that the Department makes those determinations in the Fall of this year, as they now intend based in many cases on very preliminary, and sometimes questionable data. Let me further suggest that at the conclusion of characterizing three sites only one site is determined to be suitable for development as a repository, and that only marginally so. The Department, assuming it survived the notice of disapproval process, would then come to the Nuclear Regulatory Commission with an application for a construction authorization for a site of dubious physical integrity, thus putting the political onus on the Commission and Congress because of the years of effort, the impending acceptance date, and the hundreds of millions of dollars expended, to approve what may later turn out to be a bad site.

Finally, Mr. Chairman, we urge that, if the Department is to continue to insist upon its view as to the timing of the preliminary determinations, that Nuclear Regulatory Commission needs to revisit entirely the question of concurrence in the Department's final siting guidelines. The subjective nature of those guidelines already permits, we feel, the ultimate selection decisions to be made on a subjective basis, rather than based on firm, objective scientific considerations. But if the preliminary determination that a site is suitable for a development of a repository is to be made before characterization is complete, or even begun, and thus before the whole range of confirmed scientific data necessary to make an informed, intelligent decision is even available, then those guidelines are not only statutorily deficient, but wholly inadequate and incapable of insuring, with any degree of confidence, that selection decisions, and the health and safety considerations implicated in those decisions, have been made on the most objective, defensible scientific grounds possible.

In conclusion, Mr. Chairman, Nevada takes strong exception to the Department's interpretation of section 114 (f) allowing it to make its preliminary determination of site suitability before characterization even commences. We urge the Department to resubmit guidelines which allow for the selection of sites only on an objective scientific basis.

Again, Mr. Chairman, I appreciate very much the opportunity to make these remarks on behalf of the State of Nevada. Should you or any committee members have any questions, I would, of course, be happy to answer them.

July 6, 1984

Mr. Charles R. Head, Acting Director
Operations Division
Office of Civilian Radioactive Waste Management
U.S. Department of Energy, RW-13
Forrestal Building
1000 Independence Avenue
Washington, D.C. 20585

Dear Mr. Head:

Enclosed please find specific comments from the State of Nevada, including those of this office, the Nevada Legislature, and affected local governmental entities on the draft Mission Plan.

In general, we have found the draft Mission Plan to be inadequate. It doesn't appear to be a plan or a planning guide and doesn't meet the intent of Section 301 of the Nuclear Waste Policy Act of 1982. This document is a mere compilation of various actions, activities, and alternatives without any attempt to integrate systems, processes, or events. In fact, the "Plan" is riddled with numerous inconsistencies, confiliting dates and schedules, and inaccuracies. For example, in numerous places the dates for certain events to occur change from section to section, the description of the same events are different in different locations, and in many instances, these discrepancies directly conflict with other sections. The schedule, with alternatives, are totally unrealistic - all directed at meeting the 1998 date for commencing repository operation at all costs. In statements throughout the document, and in statements made by DOE officials, the commitment has been made that the schedule will not compromise the technical program or the institutional process. However, this document clearly compromises both in the Department's zeal for the 1998 date.

Specifically, the State of Nevada believes that the 60-day review time on the draft environmental assessment is totally inadequate, believing that a minimum of 90 to 120 days is necessary. We have written to DOE on this issue previously, with no response. We also believe that the site recommendation decision should be opened to allow State and public review of the methodology to make that decision and to allow review of the decision itself prior to its finalization and submission to the Secretary. We have written to DOE about this issue as well, with no DOE response.

Finally, due to the number of issues, events and concepts contained in this "Plan", the State of Nevada reserves the right to provide additional comment to DOE on these matters at such future time as the opportunity is present to do so.

It is obvious and unfortunate that the Department of Energy has elected not to utilize the Mission Plan as a tool to promote the needed confidence of the public on the ability of the Federal government to carry out this most critical program. This document, in fact, adds to the concerns of an already skeptical public that the Department has no better idea about how to proceed with this program now than they did ten years ago. Another opportunity for the Department to demonstrate its commitment to technical excellence and meaningful involvement in the institutional process has been missed.

Should you have any questions regarding these comments or other issues, please do not hesitate to contact me.

Sincerely,

Robert R. Loux
Director

RRL:sk
Encls.

STATE OF NEVADA SPECIFIC COMMENTS

MISSION PLAN
VOLUME 1

PAGE 1-1 The second program objective is not a true objective. The Nuclear Waste Policy Act indicates that if a determination of need is made, then a proposal for development of a monitored retrievable storage facility is to be submitted to Congress. If Congress authorizes the development, then DOE will site, license, construct and operate the facility.

In addition, the State believes another program objective must be "to promote public confidence in the safety of disposal of radioactive waste".

Page 1-2, last paragraph The Mission Plan in and of itself cannot demonstrate conformance to the requirements of the Act. The Mission Plan should show how conformance will be demonstrated.

Page 2-1 first paragraph needs further clarification as to the storage of waste in the event of a delay in the repository schedule. Will the storage be interim storage at the reactor, monitored retrievable storage, or lag storage at the repository site?

Page 2-2 Table II suggests there is no "ramp up"—of waste acceptance for the second repository. We endorse the ramp up concept for first repository and suggest it be incorporated into the second repository waste acceptance schedule.

Page 2-3 In the discussion of defense radioactive waste, no mention is made of the impact of defense waste on transportation, waste handling or processing and the safety implication of additional waste. There must be some impacts since it is stated that commercial acceptance schedules will not be changed for acceptance of defense wastes. How does the additional 10,000 MTU of defense waste impact the limit of 70,000 MTU per repository as specified in the Act?

Page 2-4, last paragraph DOE schedule for site characterization for the second repository is unrealistic. Congress cannot approve the second repository in the "early 1990s" because:
1. Selection of the first repository is scheduled for 1990, therefore alternatives cannot be considered for second repository prior to 1990.
2. Recommendation of second repository sites for characterization will not occur before 1989, to be followed by years of characterization, EIS preparation and review; therefore, selecting the second repository site in mid-to-late 1990s, not early 1990s.

Page 2-5, paragraph 1 Last sentence states that planning and analysis of additional repositories will be periodically undertaken. The Act does not specifically cover this activity. Who will be responsible for the costs?

Page 2-5 The Mission Plan fails to adequately define conditions which will trigger the construction of an MRS facility. Page 2-5 lists two conditions, but additional caveats found on page 2-9 lead to the conclusion DOE has no real criteria at all. It appears DOE has the leeway to do whatever it considers most expedient with respect to an MRS at any particular time.

Page 2-6, first paragraph Text gives the erroneous impression that DOE proposed hearings on the guidelines. All guidelines hearings were a direct result of concern by the states, affected tribes, and interested groups that their comments on the guidelines were not being addressed by DOE. Even proposed public hearings on the draft environmental assessments are a direct result of State demands for public input. It is likely these demands for public hearings will increase as the program intensifies.

Our request for additional hearings partially stems from what we view as a DOE-contrived plan to minimize substantive comment by scheduling public review of major decision documents as short as possible. We have pressed and continue to press for 120 days for review of major program documents such as the draft environmental assessment. The 45 days or 60 days announced by DOE is not acceptable and does not support the notion of public involvement put forth in the plan.

Page 2-6 Paragraph 3 discusses site characterization activities. Since there could be five years, according to the reference schedule, between SCP hearings and DEIS hearings, we request DOE commit in the Plan to yearly hearings to inform the public on plans and progress of site characterization and receive comments.

Page 2-6 Paragraph 4 does not address the State impact analysis called out in the Act and how this analysis will impact the DOE EIS process.

Page 2-8 Under item d, who determines what is full participation and what financial assistance will be provided?

Page 2-8 The Mission Plan states the Test and Evaluation Facility (TEF) will be directed at verifying the repository final design and confirming site performance. This is distressing since rocks under consideration may not be homogeneous over large distances. For this reason, it is not desirable to conduct all performance confirmation in the TEF. It would be preferable to perform most of the confirmation work at various locations in the actual repository itself as well as in the TEF. A comparison of results could then be conducted and a confidence level assigned to results from the TEF.

Page 2-12 Under the section on federal interim storage, the Plan states that DOE will discuss potential sites with states and affected Indian tribes. What is the process here? Will states and affected tribes have input prior to identification of sites?

Page 3-A-3 The Mission Plan states "in evaluating the suitability of sites, engineered barrier systems will be considered to the extent necessary to meet the performance requirement specified by the NRC and the EPA...but will not be relied on to compensate for significant uncertainties in the natural system". While it is true the multibarrier approach allows performance standards to be developed for both the releases from the waste package and the repository itself, DOE's statement that engineered barriers will not compensate for site uncertainties is incorrect. 10 CFR 60 states in the July 1983 version that "An engineered barrier is required to compensate for uncertainties in predicting the performance of the geologic setting, especially during the period of high radioactivity. Similarly, because the performance of the engineered barrier system is also subject to considerable uncertainty, the geologic setting must be able to contribute significantly to isolation". What DOE should be saying is that engineered barriers will not be used to compensate for site deficiencies. The wording on this page should be changed to reflect the true purpose of engineered barriers.

Page 3-A-5 First sentence should be revised as follows: "By January 1, 1985, the Secretary is to recommend, with State or affected Indian tribe input, three of the nominated sites to the President for characterization."

The discussion on Page 3-A-5 relative to site characterization is incomplete. In addition to the development of site characterization plans, plans should also be developed and provided for public review on environmental, socioeconomic, and transportation issues. The description of activities in paragraph 3 should include proposed environmental, socioeconomics and transportation activities.

Page 3-A-5 Paragraph 4 states that the President is to recommend the first repository site to Congress by March 31, 1987. The reference repository schedule shows this action taking place in June, 1990.

Page 3-A-9 In section (a) Siting, how do the two basic questions on site suitability relate to DOEs preliminary determination of site suitability? Will the preliminary determination answer these questions?

Page 3-A-9 Under the section on site screening, the Plan states that the second screening approach was to evaluate lands dedicated to nuclear activities and owned by DOE and in that context reviewed Hanford and Nevada Test Site. Why were other

DOE-owned sites dedicated to nuclear activities (Idaho and Savannah River) not evaluated?

Page 3-A-15 In the section on Systems, define the term "parametric sensitivity analysis" in layman's terms.

DOE proposes to establish a national peer review panel to review aspects of performance assessments. Describe this panel in more detail: who are the members, what is the panel's charter, how will their input affect the program and this Plan?

Under the section on Systems, the Plan states that DOE is currently conducting preliminary performance assessments based on pre-site characterization data. The May 14, 1984, revisions to the DOE siting guidelines would suggest that prior to characterization there will not be sufficient technical data to perform a reasonable performance assessment. The quantity and quality of data before characterization varies widely among sites, making valid comparisons among sites based upon performance attributes inappropriate at best.

Page 3-A-16 First paragraph states "Conceptual design studies for surface and subsurface facilities in tuff at Yucca Mountain will begin in 1984". This statement prejudges the site characterization decision by implying that Yucca Mountain has been selected for characterization and repository design has been initiated.

Page 3-A-17 In the section on the Test and Evaluation Facility, the role of the TEF as envisioned in the Act is falsely stated. The role of the TEF is to conduct research in the geologic disposal of radioactive waste, not to conduct site verification activities.

Page 3-A-20 Description of the recommendation for site characterization process is very skimpy. What will be the siting criteria and methodology used in the process? What will be the degree of public involvement?

Last paragraph states that site characterization activities will begin following site approval. No site characterization activities, particularly the sinking of the exploration shaft, can begin prior to development of a site characterization plan, review by the public, and acceptance by the NRC.

Page 3-A-21 Excavation of a large diameter second shaft is not supported by health and safety concerns. Mine safety laws do not support this position. The only logical reason for a large diameter second shaft is to shorten the repository construction schedule. This is an obvious attempt to bypass NRC regulatory review.

In the last paragraph, the Plan states that preliminary (Title 1) designs will support preparation of the site selection report, the EIS, and the construction authorization application. This is unacceptable. Final (Title II) designs must be presented with the construction authorization application so a full and complete review can be performed. Complete technical information must also be presented in the site selection report and the EIS so meaningful, informed decisions can be made.

Page 3-A-22 Paragraph three states that a memorandum of understanding with the NRC on the co-located test and evaluation facility will be prepared and signed. What is the State involvement in this process?

Page 3-A-22 and 3-A-23 In the section on Licensing it appears DOE has not done its homework relative to the NRC licensing process. From our understanding of NRC licensing and the history of NRC licensing decisions, NRC will not grant site construction approval based upon preliminary designs. We believe NRC will require the submittal of final designs prior to a detail review of any construction authorization application.

Separately, we have safety concerns in the repository operational area with the simultaneous underground excavation of waste emplacement rooms with handling and emplacement of waste in previously excavated rooms. It appears little thinking has gone into how this can be accomplished safely.

Page 3-A-26 Under the section on Consultation and Cooperation, specific plans include (c) consultation on the decision process for recommending sites for detailed characterization. Nevada agrees and supports a plan for consultation on the decision process for recomending sites, however, discussion with top DOE personnel and various presentations and testimony by DOE officials indicate there will be no consultation with states on the decision process. This conflict needs to be resolved.

Page 3-A-27 Last paragraph states that DOE will incorporate comments as appropriate. In the minds of the public affected by repository siting, all comments are appropriate. It is suggested that DOE plan to summarize these comments and include this summary as an appendix to the EAs.

Page 3-A-28 Table III-A-1 should include the following milestones: 1) State/tribe/public interaction points; 2) Congressional approval of site for development; 3) NRC licensing of sites to accept waste. Two points: Notice of site disapproval by states or tribes and Congress overrides disapproval, are based on DOE judgment of the process only. Site disapproval is an option granted to the states and may or may not be exercised. Table gives the impression the notice of disapproval is mandatory.

Page 3-A-29 In Table III-A-2 (Alternatives for Completion of First Repository), there are many other alternatives which could be considered. How were these alternatives selected? The Plan is silent. What is the most reasonable and realistic alternative given the various testing and delay scenarios described in the

Plan? The Plan is again silent.

Page 3-A-30 Alternative case 1-A identifies six months from issuance of final guidelines to the recommendation of three sites for characterization to the President. Such a schedule would require that a site reccomendation report for three sites be prepared prior to finalization of the environmental assessments for nomination of five sites. Given that schedule, what effect will public comment on the environmental assessments have on the siting decision process? This schedule suggests very little.

Page 3-A-31 Phase 2 states that DOE will complete the process of obtaining applicable state and/or local permits after issuing site characterization plans. It is unlikely that the states and/or local government will issue any permits prior to acceptance of the site characterization plan by the NRC.

Page 3-A-32 Case 2-A is not realistic. It assumes 1) DOE can obtain variances from all state and/or local government permits, and 2) there will be no comments on site characterization plan. Also, it is unlikely that any state and/or local governments will grant any permit variances prior to approval of the SCP by NRC.

Page 3-A-37 Under Reference Schedule - First Repository the Plan states the reference schedule was selected from the alternatives presented in the Plan. This statement is false and misleading. In fact, it appears the reference schedule was developed by selecting parts of the alternatives which allowed DOE to meet the dictates of the Act.

Page 3-A-39 There appears to be a conflict in dates. Plan indicates President will approve the recommended sites by March 1985, however, the next paragraph indicates a site characterization plan will be issued for basalt in January 1985. Separately from the issue of prejudging that a basalt site will be recommended and approved for characterization, the Plan indicates that a basalt SCP will be issued prior to Presidential approval. This violates the letter and spirit of the Nuclear Waste Policy Act (sec. 112(f)).

Also on the same page the duration of testing to support the environmental impact statement (more correctly site characterization) is identified. However, what is not stated is whether these durations consider the impact of excavation of a second shaft or if the durations are based on a single shaft concept.

Page 3-A-40 DOE believes that it is not necessary to have three suitable sites at the end of site characterization. The State of Nevada believes that three suitable sites are required at the end of characterization. We believe the Act and NEPA Regulations support our position. We also contend the NRC will be unable to adopt the DOE EIS because of the lack of three viable alternative sites. Delays are inevitable on this issue.

Page 3-A-41 Case 4-A does not identify the process to be utilized to resolve potential licensing issues. Also, the discussion does not consider intervenor action in the licensing process. History has shown intervention of interested groups has occured in practically all nuclear licensing proceedings; waste proceedings will be no different. Such intervention will cause further delay.

Page 3-B-1,2 As currently worded, the DOE will offer a proposal to Congress on the MRS at generic sites, and if approved by Congress, site selection activities would take place. This suggests states would not have the oportunity to conduct a technical review of the proposal prior to Congressional approval nor to participate in formulating the site selection criteria. The states should be able to review the MRS proposal at the same time the EPA and NRC reviews take place; prior to Congressional authorization.

Page 3-B-9 In Section c. Environmental Assessment, DOE will prepare a draft environmental impact statement, not a final.

Page 3-C-1 In the section on Transportation, the last two bullets provide for definition of technical requirements, working with industry, and establishes the management structure and procedures for operation of the transportation system. When will development of these activities occur? Will specific plans be formulated? Who will be involved in the process?

Page 3-C-3 Text states "the most efficient model mix for commercial waste shipments depends upon factors which must be continually addressed over the next several years. This includes carrier deregulation, repository design and location, on-going studies on model cost and risk impacts, and the development of new technologies for equipment such as transportable storage casks." What is the reference for these statements? Implicit to this statement is that DOE has used some assumptions in transportation planning to date. What are these assumptions?

Second paragraph discusses prenotification of nuclear waste shipments and identifies a joint DOE/DOT study of prenotification. What is the schedule for that study? A comprehensive study should include input from states and local governments. It is Nevada's position that prenotification is a state prerogative, and not a decision by the Federal government.

Page 3-C-4 Under Federal Level Coordination, what is the schedule for developing procedural agreements with other Federal agencies?

Section on State, Local and Tribal Coordination is extremely weak. What are the plans for coordinating transportation issues with states, tribes, and local governments?

Page 3-C-5 A major issue identified in the previous draft of the Mission Plan was whether or not there would be a sufficient supply of transportable casks. In the current draft, however, only the type of cask to be used is discussed. Does this mean DOE no longer considers the supply of casks to be an issue?

Page 3-C-6 Under Section c Long Term Requirements, DOE's preliminary draft of the Defense Waste Plan does not discuss how defense waste will be shipped. How does transportation of defense waste interact with the civilian transportation program? What is the plan to integrate the two?

Page 3-C-7 Text indicates first draft of transportation business plan will be available for public review in the spring of 1984. The State of Nevada has not seen this document.

Page 3-C-8 What is the "well established" transportation operational management system? The State requests a review of that system, plus any future plans.

Page 3-D-4 Pertaining to the section on Dry Cask Storage, the following comments require resolution:
1. Why are dry cask storage tests on Federal sites unlicensed?
2. Successful execution of this demonstration program assumes initial consultation with the affected state, as envisioned by the Act.
3. We understand only Federal sites in the west are being considered for this program. Why were not eastern sites, close to the source, considered?
4. Nevada is on record as being opposed to this demonstration program within its borders.

Page 3-E-1 Section E is titled Systems Integration; therefore the section should tie all the loose, nebulous items of the Civilian Radioactive Waste Management Program together. It fails.

Page 3-E-6 What are the plans for completing the Systems Design Description document? What is the schedule? Will the document be reviewable by the states?

Last paragraph makes reference to additional supplementary studies which may be conducted; provide examples of some of these supplementary studies.

Page 3-E-7 Three systems integration activities are identified: Program Research and Development Announcement, Supplementary Studies, and System Design Description. What are the documents connected with these activities? Are they reviewable by the states?

Page 4-2 The Civilian Radioactive Waste Program has been in existence for 18 months since the passage of the Nuclear Waste Policy Act in 1982. It is difficult for the State to believe that during this period 1) no program-wide planning and control system is implemented and 2) no fund management system is implemented. What was the program planning guidance and system control for the last 18 months? The lack of planning at DOE/HQ is exemplified by the lateness of the Mission Plan and the inability to finalize siting guidelines within 180 days after passage of the Act. This section gives little confidence future planning will be different than previous "planning".

The second paragraph identifies the Mission Plan as the foundation for integrated planning and control. However, the third paragraph indicates that project control mechanisms that existed before passage of the Act will be incorporated into the control system. This contradicts the intent of the Nuclear Waste Policy Act.

Last sentence indicates that a single, integrated control system will be employed with the field offices. When will this be accomplished? Is it reviewable?

Page 4-9 Text states AMFM Panel meetings are open. However, the states and affected Indian tribes are not provided meeting minutes or other documents on the progress of the Panel. Draft of the Panel's report and the Secretary's response should be provided to interested organizations for review and comment.

Appendix A, Page A-1,2,3 The time schedule represented on these figures indicates Title II Design for the repository will not be complete until after construction authorization has been received by DOE for three out of four of the alternatives proposed. However, it is our understanding the NRC has requested Title II design to be "substantially complete" before any applications are submitted for construction authorization in order to have sufficient information to make an informed decision. How will this conflict be resolved, and what effect will this have on the time schedule?

STATE OF NEVADA SPECIFIC COMMENTS

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PAGE 1-4 The DOE states the boundaries of the engineered barrier systems cannot be accurately defined until after site characterization. In this case, what boundaries does DOE intend to use for the performance assessments which must take place prior to site characterization? How much validity will these initial boundaries have, especially since the performance assessments will be used in the decision to nominate sites?

Page 1-9 Issue 1.5 does not consider the prediction of higher ground water levels in the future at unsaturated zone sites.

Page 1-11 Issue 1.7 considers future igneous activity or tectonic processes. However, the discussion ignores igneous activity completely and centers on tectonic processes.

Page 1-12 Issue 1.8 fails to consider future value of natural resources.

Page 1-18 Issue 3.2 fails to identify transportation routes which conflict with other critical uses and avoids population centers.

Page 1-22 Issue 4.5 does not consider igneous activity.

Page 2-2 The statement is made "Other tasks (regulatory and institutional activities, land acquisition, test facilities, program management, financial assistance) are treated in less detail (see Section 2.7) because they are not directly aimed at the resolution of outstanding scientific or engineering issues." We believe the other activities (tasks) are just as important in repository siting as scientific or engineering activities and should be treated with the same depth.

Page 2-2 In the geologic and hydrologic studies described in Section 2.2 Site Investigations (pages 2-2 to 2-16) we have identified 10 major studies which are planned to be completed in FY 84, FY 85, or FY 86. In our view, this number is unrealistic given the accuracy, thoroughness, and completeness that the studies must achieve.

Page 2-3 Site investigations do not consider transportation studies as a major element. In our view, transportation issues are as critical to site characterization as geologic, hydrologic, environmental, or socioeconomic studies.

Page 2-3 The statement is made "The plans for geologic and hydrologic studies at the salt sites are based on the assumption that only one of the three sites recommended for detailed characterization (January 1985) will be a site in salt". What is the basis for assuming only one characterized site will be in salt? Is DOE prejudicing the siting process? A justification for the statement is required.

Page 2-5 Figure 2-1 Integrated Logic Diagram suggests that final testing results will not be presented in EIS but will be presented in CAA. In our view, all testing must be completed and all results analyzed before a viable site can be recommended to the President for repository development, well before submittal of CAA to NRC.

On the same figure (2-1) Performance Assessment Input is identified in four places. Which will be the final input? We view that the final performance assessment must be included in the EIS.

Page 2-7 In the section on Tuff the Plan states that there are many active faults in the region and postulates that other faults could become active in the future. How will this future fault activity affect repository integrity? What will be the criteria used to identify future activity on faults? Faults are known to occur at the proposed site. What is known about their activity? The text gives the impression that a site in a geologically and tectonically complex area with numerous active faults and seismicity is suitable and viable. We view this impression with much skepticism.

Page 2-10 and 2-11 Sections on Erosion and Paleoclimatology identify that summary reports will be prepared at the conclusion of tuff studies. A summary report is unacceptable. A satisfactory review of these studies necessitates the development of comprehensive reports.

Page 2-12 The first sentence regarding previous exploration and mineral potential in tuff is misleading. The absence of previous exploration in and of itself is not indicative of a lack of minerals or other energy resources. This same statement could be said about most sites at one time or another. There are many reasons that previous exploration could be limited such as access problems and more attractive areas elsewhere. In addition, a statement is made regarding effects of inadvertent "wildcat" exploration. The term "wildcat" refers to a specific part of petroleum exploration; it is not applicable to mineral resource exploration.

Page 2-12 Text states potable ground water exists beneath the tuff site but extensive development is unlikely because of rugged terrain and poor soils. The discussion is misleading and prejudges the conclusion of the FY 87 study. Southern Nevada is an arid environment, potable water is in high demand both now and in the future. Many plans to increase the water resources will be researched, analyzed, and developed in the future. Direct water transfer is a viable scheme. When considering the 10,000-year "hazard-life" of the repository, consumptive use of potable ground water in the vicinity of the tuff site is likely.

Page 2-15 A preliminary model of flow in the tuff unsaturated zone is proposed to be developed in FY 89. Section 2.3.3 on Exploratory Shaft Testing indicates testing will be complete by mid-FY 89. This overlap of dates suggests a preliminary model and a final model will be developed in the same time period; not a technically-sound procedure.

Page 2-15 Description of the environmental studies for tuff is extremely general. Text indicates environmental studies were initiated in 1980. Surely more data has been developed than suggested in this brief discussion.

Page 2-16 and 2-17 Section on Exploratory Shafts does not consider the period required to review, comment and resolve issues on the site characterization plan. We expect that no exploratory shaft activities will begin until all issues are resolved and NRC has approved the Plan.

Page 2-19 Will the plan for excavation of exploratory shafts and tunnels and test plan be submitted to Federal OSHA and State Mine Inspector for their review?

Page 2-20 Last paragraph of Section 2.3.2 Construction conflicts with Section 2.3. Section 2.3 indicates two shafts will be excavated at all sites selected for characterization, but Section 2.3.2 indicates that the need for a second shaft in tuff remains to be established. Will the second shaft in tuff be excavated or not?

The use of two shafts at NTS must be carefully evaluated. Circulation of air between the shafts may allow excessive drying in the drifts used for measuring unsaturated permeabilities and soil moisture potentials. Unless provisions are made for this problem, the measurement of these parameters could be incorrect.

There appears to be a discrepancy in the construction and testing schedules presented here and the EIS schedule presented elsewhere in the Plan. Our analysis indicates the final EIS will be issued five months before site characterization testing is complete.

Page 2-22 In the section on Exploratory Shaft Testing in Tuff the first five "tests" in the construction phase and the first two "tests" in the in-situ phase are not tests. These are data gathering tasks - no testing is involved.

Only 31 months have been allocated for the entire testing program for tuff. In order to meet this schedule it will be necessary to conduct many tests concurrently. However, care must be taken to arrange both the temporal and spatial placement of certain tests to ensure there will be no cross interference. The time allotted may not be sufficient to do this.

Page 2-26 Text indicates Title II design will begin in FY 90 to support construction startup. It is our understanding NRC will require Title II design for review prior to approval of the construction authorization. Therefore, Title II design must be completed by FY 90, according to the reference schedule in the Plan.

There is extensive discussion of engineering tradeoffs and cost-effectiveness of the repository design. How will safety influence design tradeoffs and cost effectiveness?

Page 2-35 Why is copper being evaluated as an alternative canister material? It is an inappropriate material for a repository in tuff. The unsaturated zone is an oxidizing environment.

Page 2-38 Section 2.5.4 discusses in-situ testing of waste packages. The discussion is brief. Is such testing "state-of-the-art" or experimental? How will two years of testing obtain sufficient data to assess the containment capability of the waste package for 300-1000 years?

Page 2-39 In Section 2.6.1 tradeoff studies need further definition. How will safety influence tradeoff studies?

Page 2-39 Text indicates performance assessment input for the EIS and the PSAR will be based upon preliminary data and designs. In our view, the Nuclear Waste Policy Act requires a determination of site suitability after characterization. The assessment of site performance is critical to that suitability determination. That determination *cannot* be based upon preliminary data and designs.

Page 2-41 Figure 2-6 indicates a long-term performance assessment for the repository will be finalized and submitted with the license application to accept waste. This is *unacceptable*. The complete assessment of the long-term performance of the site must be included in the DEIS so a final determination of site suitability can be made. There must be confidence that the repository selected by the President is based upon sound technical analysis of all data, not partial, preliminary or assumed data.

Page 2-42 and 2-43 Text has an extensive discussion of computer codes. There is no discussion about the confidence DOE has that these codes accurately model site conditions and repository performance. Are these codes state-of-the-art?

Page 2-49 Concerning estimated total cost, text states that regulatory and institutional activities are assumed to occur from 1983 through 1997. This is not realistic. The regulatory process will never stop, certainly not before the operating permit is issued and final closure is agreed to. Following the issuance of an operating permit, new information will constantly develop as new tunnels are opened, waste canisters are emplaced, backfilled and performance assessed. Allowances should be made for the continuation of this activity through the final closure of the repository.

Page 3-1 First paragraph states that DOE is in the process of formulating plans for the resolution of potential financial, political, legal, and institutional problems. Section 301(a) of the Act requires these plans to be formulated and completed at the time of submittal of the Mission Plan.

Page 3-4 Section 3.2.2 indicates DOE will adjust document review schedules to address state "start-up time delays". Published EA public draft review schedules now in circulation conflict with DOE's proposed commitment. The State of Nevada, as well as other states and interested groups, have repeatedly requested 90 - 120 days to properly review the EA, but DOE has steadfastly stated that 60 days is sufficient time. These kind of statements give little confidence that DOE intends to cooperate and interact in the reasonable fashion envisioned by the Act.

Page 3-6 In Section 3.4.2 on Plans for Resolution of State and Local Permit Requirements, it is unrealistic to assume that state and local permit problems can be resolved through the consultation and cooperation agreement process.

Page 3-7 The statement is made that two states have enacted legislation which adversely affects the geologic repository program. Many states have statutes that are legal and constitutional and must be adhered to which could adversely affect the repository program. That does not mean state statutes are unconstitutional. The tone of Section 3.5 leaves the impression that DOE is unwilling to work within the framework of state or local laws to resolve conflicts. Section should be rewritten in a positive tone, to give states and public confidence that DOE is willing to work with state and local governments to resolve differences.

Page 3-9 Text states DOE will develop a program-wide public information plan. Nevada requests the opportunity to review a draft of the plan.

Page 3-11 Section 3.10.2 states "The first component of this effort is to conduct site-evaluation activities in a technically thorough and rigorous manner, thereby allowing selection decisions to have a sound and defensible basis". In our view, the DOE guidelines for siting repositories do not lend confidence that site selection decisions will have a sound and defensible basis. According to the guidelines, siting decisions relative to selection of potential acceptable sites, nomination of sites and recommendation of sites for characterization will be based on findings made on factors which do not require characterization (i.e. site ownership, population density, offsite installations, and environmental quality). All technical factors require characteriztion before a finding of qualification or disqualification can be made, thus the siting process will be narrowed to three sites before technical data can affect siting decisions. This is hardly a technically sound, defensible siting process.

Page 3-12 Waste will be transported through a number of states. This will create additional financial demands on those states. Decisions must be made concerning mode, routes, financial implication, time of travel, notification, escorts, emergency response, liability and financial assistance. . Institutional problems may arise from complexity of coordinating all Federal, State and local agencies that are concerned with the issues. All these items need discussion.

Page 3-13 We agree with DOE that a major first-of-a-kind national program could generate delays through changing licensing criteria and modifications of designs or systems. It also means that the NRC is not likely to look favorably towards any type of expedited authorization or licensing process and, in fact, should require extra time to ensure the safety of this first-of-a-kind facility.

Page 3-16 Statement is made "there is uncertainty regarding adequate levels of funding to ensure full participation of states and affected Indian tribes". What is certain is that as the process grows more complex and delays occur, grants to states must increase many fold.

Page 5-1 Chapter 5 discusses the significant results and the implication of research and development programs on the repository program. It fails to discuss any technical problems which have been encountered as a result of research and what plans have been developed to resolve the problems. Also, it is important to know what impacts these technical problems may have on repository siting and program schedules. We believe the discussion of problem areas is implicit in Section 301 (a)(5) of the Act.

Page 5-13,14,15,16,17 Section on the tuff site has few references to back up the technical discussion in the Plan. Are these discussions based upon facts or "conservative assumptions"?

Page 5-14 In the first paragraph the statement is made that a caldera may lie directly beneath the proposed repository. This is a bold statement without further explanation. What is the evidence for this feature? How old is it? What is the potential for renewed activity? How does this feature impact site suitability and isolation capability? Is the caldera a potential target for geothermal exploration? The implications of this statement gives the public little confidence that Yucca Mountain is a safe repository site.

Page 5-14 In paragraph six it is unclear how the 2000 acres relates to repository size and capacity. Is 2000 acres sufficient size to contain 70,000 MTU? Also, the text makes the optimistic statement that mining through the fracture zone is not a serious obstacle. It appears little data has been developed which might support such a statement. If a fault is present, it may be a ground water barrier. It is our understanding water table levels are substantially higher to the north.

Page 5-16 The second paragraph discusses the potential for repository disruption by volcanism. What is the probability for eruption in Long Valley and subsequent blanketing of the area by thick layers of volcanic ash? In view of the USGS warning that such an eruption is probable, has the impact on health and safety during construction and operation been considered?

Paragraph three states that the estimated effect of underground nuclear weapons testing are of less consequence than the effects from probable natural earthquakes. What are the consequences of nuclear weapons testing? Are they significant? Given the high likelihood of occurrence, will these effects be considered in the repository design? How will they be handled during operation? What is the potential of future nuclear weapons testing areas moving closer to Yucca Mountain? Given the proximity of Yucca Mountain to NTS and Nellis Air Force Bombing Range, should the effect of a potential surface nuclear blast resulting from enemy attack or potential missile or plane impact be considered?

Paragraph four states that a fault zone that bounds the west edge of the site contains a small unfractured basalt dike dated as 10 million years old and another part contains unbroken mineral filling dated as more than 20,000 years old. It also states that the existence of a basalt dike at one point along a fault zone does not preclude activity on other parts of the same fault zone. The existence of unbroken mineral filling dated as more than 20,000 years old does not meet the NRC criteria (10 CFR 100, Appx. A) for determining fault capability.

Paragraph five states that there is a major gap in the geologic record between 11.5 million years and 400,000 years ago. If this is the case, then there is no basis for stating that fault movement has been minor since 11.5 million years ago. Without some kind of discernible geologic record, it will be difficult to define the full extent of Quaternary tectonics in the area. What type of studies are being considered to provide this information?

Page 5-31, 5-33, 5-34, 5-35 Text on hydrogeologic system in tuff is devoid of references.

Page 5-33 Text states concepts of the unsaturated zone flow system have been developed and will be tested in future studies. What other concepts were considered and why were they rejected? What tests will be performed to verify the concepts? How will water vapor be treated in these concepts?

Page 5-33 The last paragraph describes downward flow as the most likely path of radionuclide transport. In the geology section (5.2.3), the site is described as layers of tuff rock, heterogeneous vertically but homogeneous laterally. With that in mind, what is the potential for lateral movement of radionuclides?

Page 5-40 Section 5.4.3 on Geochemistry of Ground Water contains little detail, especially in view of the key site suitability issues on ground water. It appears based on the Mission Plan that the site will be recommended for characterization with little or no information on unsaturated zone hydro-geochemistry. Project appears to be at some risk in proceeding in this fashion.

Page 5-57 Section 5.7 is a summary of the advantages and disadvantages of potential host rocks for the first repository. The first sentence states "Each potential host rock has certain intrinsic advantages and disadvantages". The discussion which follows for each host rock emphasizes only the advantages and minimizes the disadvantages, almost to the point of no mention. Table 5-4 on page 5-62 does not appear to relate to the text discussion. It is important that the Plan give a clear, honest picture of the suitability of the selected host rocks to contain and isolate the waste.

Page 5-58 Discussions adapted from the National Research Council (1983) are misleading and self-serving. The information that is contained in the 1983 report came from DOE and its contractors. The fact that this information is included in a National Research Council report does not necessarily validate the accuracy or completeness of the data.

Page 7-1 In our view, Chapter 7 is given very weak treatment. Nevada is left with the impression DOE does not have firm, detailed plans for site characterization. It is unknown whether there will be one shaft or two, whether testing will include radioactive materials, whether any characterization activities will compromise the isolation capabilities of the proposed sites, and whether site characterization activities will induce any adverse or safety-related impacts. Also, there is no discussion in Chapter 7 of how non-technical factors (i.e. environmental, socioeconomics, transportation) will be treated during site characterization.

Page 7-13 Regarding the site characterization program, it is suggested that an additional statement be made regarding the need for NRC approval of the site characterization plan prior to beginning the actual sinking of the shaft.

Page 7-13 Section 7.2.1 argues for a two-exploratory shaft site characterization program. From our view, the arguments are weak. From a safety aspect, the Federal Mine Safety Code concerning underground escapeways requires two or more separate, properly maintained escapeways from every producing mine. The Code does not require two escapeways from exploration activities. In addition, it is not mandatory the second escapeway be equivalent in size to the main shaft of the mine. From the economics perspective, it does not appear cost effective to excavate two shafts at each of three characterization sites, when there is the possibility two of the sites will not be recommended for development. Utilizing DOE's cost figures for exploratory shafts (page 10-4), the program could save $275-300 million. Also, there is no basis to suggest that a large second shaft will be required to conduct tests perceived necessary for NRC licensing. NRC's review may not necessitate additional testing and surely a large second shaft is not mandatory to conduct the tests.

Page 7-14 The last paragraph concerning the need for in-situ testing to meet perceived NRC requirments is pure speculation designed to argue for a large diameter second shaft. The premise is false that NRC will require tests for performance confirmation design parameter verification, and mining feasibility. If DOE performs a comprehensive and quality technical characterization program, then the requirement for such may be negated. Given that the tests will be required, there is no justification for a large diameter second shaft to support that testing.

Page 7-16 Section 7.3 discusses plans for onsite testing with radioactive materials. The use of radioactive materials for testing purposes will require NRC approval prior to use.

Page 7-17 Under Section 7.6 there is no discussion of restoration of sites not recommended for characterization. That could be as many as six sites for the first repository program.

Page 10-1 DOE states they have been unable to complete cost estimates that are consistent with the current program strategy presented in Volume 1. In other words, the cost estimates provided in Volume II are wrong. DOE must correct these estimates before the final version of the Mission Plan is issued.

Page 10-5 Table 10-1 does not identify financial assistance after 1992. The licensing process will continue through construction, operation, and closure of a repository. The states intend to participate fully in that process and will demand funding. Also, we envision independent monitoring of the environment during construction, operation, and closure and will request funds to support those efforts.

Page 10-19 Table 10-3 There is no discussion in Chapter 10 as to the reasons for a repository in basalt to cost $2 billion more over the design life than repositories in other geologic media. In our view, the isolation capabilities of basalt must be clearly superior to justify the increased cost of the repository.

Page 11-1 Chapter 11 discussion of socioeconomic impacts is weak and incomplete. Chapter fails to identify the critical socioeconomic issues which need to be considered and the plans required to assess impacts and possible mitigation measures. The discussion also fails to consider impacts from site screening or characterization activities. There appears to be the presence of these impacts in Nevada already.

Senator DOMENICI. Let's see. We have two more. He's going to return, Mr. Loux, and inquire of you and of the panel. We have a vote on, and he's going to vote and let me go vote when he returns.

Mr. Curtis, you'll have to help me with the name.

Mr. ESCHELS. Eschels.

Senator DOMENICI. Eschels. Special assistant for policy, State of Washington.

STATEMENT OF CURTIS ESCHELS, SPECIAL ASSISTANT TO GOV. BOOTH GARDNER, STATE OF WASHINGTON

Mr. ESCHELS. Thank you, Mr. Chairman, members of the committee. I also have a written statement to which is attached some testimony by Governor Gardner to the Nuclear Regulatory Commission last week. I'll summarize it.

Senator DOMENICI. We'll make it a part of the record, and you can summarize it.

Mr. ESCHELS. I'd like to spend my time emphasizing as many of the concerns that we have in the time that's available. I'd like to especially emphasize, I guess, our top three concerns. The final plan, mission plan, that was issued earlier we believe is significantly better than the draft. It is apparent to us, though, that U.S. DOE does still not understand the depth and the nature of the concerns of the State people and our citizens.

We believe it is still preoccupied with time lines. It's not conscious enough of safety concerns. That's why we've been critical of the headlong rush to site the repository and find that it has, in fact, eroded public confidence.

Let me point out the top three concerns and show how they illustrate the problem. DOE in that mission plan tells us that it plans to make this preliminary determination of suitability before the sites are characterized; second, that it plans to send only a part of the wastes, the defense wastes that are now stored at Hanford, to geologic disposal sites; and that it will not provide opportunity for public review and comment on this comparative ranking methodology.

As the other States have testified, we also believe that these plans are contrary, then, to the spirit and the letter of the Nuclear Waste Policy Act.

Continuing along this track will certainly lead to schedule-destroying litigation. Let me address the three sequentially.

A number of speakers have addressed this preliminary determination of suitability. We believe that they are correct and the Department is incorrect, for the reasons that Governor Gardner gave in his testimony to the NRC. He clearly and forcefully testified that the act requires this when characterization is substantially complete, perhaps not all the way at the end, but when enough of the answers are available.

A premature determination, in a sense, simply allows the Department of Energy to give a grade before the test is even taken. That approach will certainly lead to legal challenges and those will surely delay the repository program.

Let me turn to defense waste, because that's probably our top priority. A representative of the Yakima Indian Nation testified that nearly 60 percent, by volume, of this Nation's high-level nuclear waste is now stored at the Hanford Reservation. On top of that, about half of the long-lived transuranic wastes are there, about 75 percent of the defense low-level waste is there. And presently, we receive over half the Nation's commercial low-level waste.

All in all, Hanford now has the world's largest accumulation of nuclear waste. That's a concern. The President has decided to commingle defense and commercial wastes in one repository. We do agree with that decision. However, we strongly disagree with U.S. DOE's plan to process only a portion of those wastes stored at Hanford.

The Department has invented this classifcation of wastes that they term "readily retrievable wastes." And it is only that portion which it plans to process and store until it's later shipped to a repository. The plan ignores the fate of the high-level wastes that are stored in the 149 old, leaky, single-shell tanks.

Now, those wastes are made up of soluble salts, sludge—isnt that a great word—sludge and residual liquids, liquids that cannot be retrieved easily from those tanks. When I talk about integrating or commingling defense waste, I believe it's both a Hanford-specific and a program-wide issue.

The plan doesn't give you sufficient information to permit informed decisions about defense wastes, and that's what the act calls for. There is only about one page in the entire document dedicated to defense wastes and what is going to be done about that. The Nation needs more information on this important national problem, information on quantities, rate at which waste would be accepted, what it is that's in this waste stream, how it's going to affect the design of the repository, the capacity of the repository, how it's going to be operated. None of that is contained in the Mission Plan.

We are certainly not convinced leaving large amounts of high-level radioactive defense waste in the ground at Hanford is the safest thing to do.

Because we have earlier talked about the ranking methodology and there has been some action taken, I'm going to skip that part of my testimony. It's in the detailed statement. Let me simply say that the acceptance of a portion of the proposal that the Governor made we believe is a step in the right direction.

The Department is beginning to recognize the need to build public confidence which underlies the success of the program. The Governor believes that the Department should abide by any findings the National Academy of Sciences makes, and we appreciate Senator Evans' question and Mr. Rusche's answer on that point.

The scope of the Academy's review has to be broad enough to restore public confidence and get this program back on track. If it's not broad enough, it will have accomplished nothing.

Let me wrap up my oral remarks by asking for some action from Congress. The act says that the plan is to provide an information basis to sufficient to permit informed decisions to be made in carrying out repository programs. You have only 30 days to review what is a very lengthy technical document and, as you've heard, we are asserting that U.S. DOE has chosen a course of action contrary to the Act, particularly in the areas of defense waste and this preliminary determination of suitability.

Today, I am not requesting any major changes in the Nuclear Waste Policy Act. I am requesting, however, that you ensure that the Department follows the law, especially in the areas of defense waste, the preliminary determination of suitability, and ranking methodology. I also request that you clearly establish the priorities that are contained within the Nuclear Policy Act. The No. 1 priority to which we all seem to ascribe is that the disposal of high-level nuclear waste should be done in a safe and permanent manner.

The process that you in Congress established can achieve that purpose if DOE is not allowed to short-circuit the process. Adhering to that No. 1 priority and following the process will build public confidence and it will put the High-Level Nuclear Waste Repository Program back on track. Thank you.

Senator DOMENICI. Thank you very much.

[The prepared statement of Mr. Eschels follows:]

STATEMENT OF CURTIS ESCHELS
SPECIAL ASSISTANT TO GOVERNOR GARDNER
STATE OF WASHINGTON
to the
SUBCOMMITTEE ON ENERGY RESEARCH AND DEVELOPMENT
of the
SENATE ENERGY AND NATURAL RESOURCES COMMITTEE
September 12, 1985

Chairman and members of the Committee:

Thank you Mr. Chairman for inviting me to present my views on the Mission Plan for the Civilian Radioactive Waste Management Program. I will preface my remarks with general comments and then discuss our priority concerns.

We must remember that the purpose of the Mission Plan is to "provide an informational basis sufficient to permit informed decisions to be made in carrying out the repository...programs required under [the] Act" (Section 301). On August 6, 1984, the state of Washington Nuclear Waste Board submitted a comprehensive set of comments on the draft Mission Plan. The Nuclear Waste Board requested:

- a clarification of the Role of the Mission Plan;
- a more realistic schedule;
- a better consultation process;
- more specificity in the "consultation" process;
- more specificity in the transportation area;
- a clear definition of MRS;
- a clarification concerning which defense wastes would go to a geologic repository; and
- a clarification of how the defense wastes would affect repository design, capacity, and operation.

The last two issues relate to defense wastes, a major issue for the state of Washington. Our reading of the Nuclear Waste Policy Act (NWPA) is that it requires permanent, geologic disposal of all high-level nuclear waste.

The final Mission Plan is significantly better than the draft document, but it is apparent that USDOE does not understand the depth and nature of state and citizen concerns. USDOE is preoccupied with timelines and not conscious enough of safety concerns. This headlong rush to site a repository has significantly eroded public confidence.

The state of Washington has strongly supported the Nuclear Waste Policy Act as a national solution for both defense and commercial high-level waste problems. We are offended when the information base provided in the final Mission Plan is incomplete, nonresponsive and, in several cases, contrary to the Act.

USDOE, in its final Mission Plan, tells us it plans to make the preliminary determination of suitability before site characterization, that it plans to send only a part of Hanford high-level defense wastes to geologic disposal, and that it will not provide opportunity for public review and comment on comparative ranking methodology. These plans are contrary to the spirit and the letter of NWPA. Continuing implementation of such plans will certainly lead to schedule destroying litigation.

Preliminary Determination of Suitability

On September 6, Governor Gardner presented his views to the Nuclear Regulatory Commission on the importance and timing of the preliminary determination of suitability of potential high-level waste repositories. He clearly and forcefully testified that the Act requires that a preliminary determination of suitability be made after characterization is substantially complete. A premature determination will allow USDOE to give a grade before the test is taken. This approach will surely lead to legal challenges, which will certainly delay the repository program. A premature determination runs counter to the NWPA's intent of siting a safe repository with a supportable procedure. A determination after characterization will protect public health and safety, ensure public confidence, and comply with the Nuclear Waste Policy Act. Attached to my statement is a copy of Governor Gardner's testimony to the NRC.

Defense Wastes

Earlier I mentioned that defense wastes continue to be a major state of Washington issue. The Hanford Nuclear Reservation has played a key role in this nation's defense effort, but we, in the state of Washington, are now faced with a massive legacy of temporarily stored nuclear wastes. As you know, the Reservation was established under the War Powers Act during World War II. Nuclear wastes from defense activities have been building for over forty years. Hanford now has the world's largest accumulation of nuclear waste. Nearly 60 percent by volume of this nation's high-level nuclear waste is at Hanford. About half the long-lived transuranic wastes and about 75 percent of defense low-level wastes are buried there. Hanford also presently receives over half the nation's commercial low-level waste.

President Reagan has decided that it is appropriate to commingle defense and commercial high-level wastes in one repository. We agree with this decision. However, we strongly disagree with USDOE's plan to process only a portion of Hanford high-level nuclear wastes. USDOE has invented a classification of wastes they identify as readily retrievable waste, which will be processed in an immobilization plant and stored until it is shipped to a repository. The Mission Plan ignored the fate of high-level wastes stored in 149 older, leaky, single shell tanks. These high-level wastes are made up of soluble salts, sludge, and residual liquids.

Integration of defense waste into a commingled repository is both a Hanford-specific and a program-wide issue. The final Mission Plan gives insufficient information to permit informed defense waste decisions. More information is needed on waste quantities, acceptance rates, characteristics of the wastes, and the effect of defense wastes on repository design, capacity and operation. We are not convinced that leaving large amounts of high-level defense waste in the ground at Hanford is the safest thing to do.

Ranking Methodology

On August 1, Governor Gardner testified before the House Subcommittee on Energy Conservation and Power of the House Committee on Energy and Commerce. He testified that the effort to site a high-level repository is on the wrong track. Public confidence is already at a low point. He recommended a pause in the headlong rush to site a repository and asked that non-USDOE experts be asked to review USDOE's Environmental Assessment ranking methodology. He asked USDOE to set aside political consideration and focus on a single issue--the issue of safety.

The Department of Energy recently agreed to request a National Academy of Sciences review of methods for ranking the potential sites for disposal of high-level wastes. This acceptance of a portion of Governor Gardner's proposal is a step in the right direction. The fact USDOE has asked the Academy to review any part of its program shows it is beginning to recognize the need to build public confidence. Governor Gardner believes the Department should abide by any findings of the National Academy of Sciences. The scope of the Academy's review should be broad enough to restore public confidence and get the program on track. Congress wanted USDOE to choose the best site under consideration. This choice should not be marred because of flawed methodology.

Monitored Retrievable Storage

The final Mission Plan presents a more detailed description of a Monitored Retrievable Storage (MRS) facility which is an "integral" part of the federal high-level management system. From USDOE's viewpoint the advantage of MRS is that it will allow the acceptance of waste by 1998. We are concerned that an integrated MRS seems to go beyond the scope of the Nuclear Waste Policy Act. Our direct concern with the Mission Plan's treatment of MRS is narrower than other states. We must see how an "integrated MRS" affects the operation of a possible repository at Hanford. Congress must address these issues during MRS authorization hearings. A clear resolution is essential for prompt implementation of the Nuclear Waste Policy Act.

Transportation

Transportation of nuclear wastes is a major concern to our citizens. The Mission Plan now reflects a higher level of sensitivity to transportation-related issues than was evident in the draft version. However, a majority of the significant issues have been deferred for later treatment. We are disappointed that route-specific risk analysis will be limited to impact analysis for the EIS. USDOE should provide a schedule for resolving transportation issues so states can establish a schedule for reaching their own conclusions on key issues.

Schedules

There is a continuing lack of realism in the repository development schedule. The June, 1985 Mission Plan schedule shows a slippage of 11 months since the draft schedule was issued, yet USDOE has not adjusted the dates for receipt of a construction authorization or for waste acceptance. This over-optimistic schedule could result in a less than thorough site selection and characterization process and less opportunity for meaningful consultation with states. We have not criticized USDOE for missing its schedule for issuing a final Environmental Assessment because we have been assured that the quantity and quality of comments have improved the final product. On the other hand, we have criticized USDOE when it attempts to meet unrealistic schedules which jeopardize public confidence in the repository program.

More realistic schedules can provide certainty and safety. Both are needed.

Request for Congressional Action

Earlier I said the purpose of the Mission Plan is to "provide an informational basis sufficient to permit informed decisions to be made in carrying out the repository programs". I recognize that Congress has only 30 days to review this very lengthy technical document. Your job is even more difficult because USDOE chose a course of action contrary to the Act in the areas of defense waste and preliminary determination of suitability. In addition, USDOE schedules are unrealistic, its transportation plan lacks specificity and its site nomination and recommendation processes are extremely weak.

Today I am not requesting major changes to the Nuclear Waste Policy Act. I am requesting that you ensure USDOE obeys the law, especially in the areas of defense waste and preliminary determination of suitability. I also request that you clearly establish Nuclear Waste Policy Act priorities. I believe that the number one priority should be safe permanent disposal of high-level nuclear wastes. Please, do not allow USDOE to short circuit the process. USDOE schedules should be realistic and allow enough time to do a good job. These very basic actions will build public confidence and will put the high-level nuclear waste repository program back on track.

STATEMENT OF BOOTH GARDNER, GOVERNOR
STATE OF WASHINGTON
TO THE
NUCLEAR REGULATORY COMMISSION
SEPTEMBER 6, 1985

MR. CHAIRMAN AND MEMBERS OF THE COMMISSION:

THANK YOU FOR INVITING ME TO PRESENT MY VIEWS ON THE IMPORTANCE AND TIMING OF THE PRELIMINARY DETERMINATION OF SUITABILITY OF POTENTIAL HIGH-LEVEL WASTE REPOSITORY SITES. THE STATE OF WASHINGTON, AT EVERY OPPORTUNITY, HAS CLEARLY AND FORCEFULLY STATED ITS OPINION CONCERNING SECTION 114(F) OF THE NUCLEAR WASTE POLICY ACT (NWPA). OUR POSITION IS FAITHFUL TO BOTH THE SPIRIT AND THE LETTER OF NWPA, AND THE INTENT OF CONGRESS. WE EMPHATICALLY BELIEVE THE ACT REQUIRES A PRELIMINARY DETERMINATION OF SUITABILITY TO BE MADE AFTER CHARACTERIZATION IS SUBSTANTIALLY COMPLETE.

OTHERS HAVE ALREADY TESTIFIED ABOUT THE LEGAL JUSTIFICATION FOR OUR POSITION, SO I WILL DISCUSS THE IMPLICATIONS OF OUR POSITION. THIS IS A VERY SIGNIFICANT ISSUE FOR BOTH THE STATE OF WASHINGTON AND THE NUCLEAR REGULATORY COMMISSION. IT IS IMPORTANT TO REMEMBER THAT USDOE MAKES THE PRELIMINARY DETERMINATION, AND NRC MAKES THE FINAL DETERMINATION OF SUITABILITY DURING THE LICENSING PROCESS. OUR CITIZENS NEED TO BE CONVINCED THAT BOTH DETERMINATIONS GUARANTEE SAFE PERMANENT DISPOSAL OF HIGH-LEVEL WASTES.

Before I discuss my specific concerns about the timing of the preliminary determination, I want to give the three conditions which must be met before Washington State would consider accepting a repository site. These conditions are:

1. USDOE must demonstrate to our satisfaction that the repository will be safe.
2. USDOE must demonstrate that Hanford is better and safer than any other site.
3. The proposed repository must be acceptable to Washington State citizens.

Let me briefly explain how the decision on determination of suitability relates to the three conditions. USDOE must use performance assessment techniques to demonstrate that the repository will be safe. As you know, Hanford is the most complex site under consideration. Extensive studies will have to be completed before USDOE can reliably conclude that groundwater travel times will meet EPA and NRC requirements. In its draft Environmental Assessment comments, NRC states that it believes "limitations of the available data do not allow high confidence to be assigned to any travel time estimates at this time". Independent experts engaged by the State of Washington agree with this statement. At this time, with this limited information, USDOE cannot demonstrate that a repository at Hanford will be safe. A preliminary determination of suitability should not be made until USDOE can demonstrate the site is a safe site. NWPA establishes a

PROCEDURE WHICH ALLOWS THE PRELIMINARY DETERMINATION TO BE MADE WHEN RELEVANT AND NECESSARY INFORMATION IS AVAILABLE. THIS IS NOT THE TIME.

CONDITION TWO IMPLIES A COMPARISON AMONG ACCEPTABLE SITES. IF HANFORD IS CHOSEN, IT IS VERY POSSIBLE THAT A DISQUALIFYING FATAL FLAW WILL BE DISCOVERED DURING SITE CHARACTERIZATION. EVEN IF SITE CHARACTERIZATION IS COMPLETED AT HANFORD, WE ARE CONVINCED THAT USDOE WILL BE UNABLE TO ASSIGN HIGH CONFIDENCE TO GROUNDWATER TRAVEL TIMES. IF ONE OR MORE SITES ARE DISQUALIFIED, USDOE AND NRC WOULD HAVE A VERY DIFFICULT TIME PROVING THE CHOSEN SITE IS BETTER AND SAFER. IF ONLY ONE SITE WOULD REMAIN ON THE LIST, COMPARISON AMONG ALTERNATIVES WOULD BE IMPOSSIBLE AND USDOE WOULD BE UNABLE TO DEMONSTRATE THAT THE CHOSEN SITE IS SAFER AND BETTER.

THIS LEADS ME TO CONDITION THREE, CITIZEN ACCEPTABILITY. HAVING THREE SUITABLE SITES AFTER CHARACTERIZATION IS THE FUNDAMENTAL REQUIREMENT FOR CITIZEN ACCEPTANCE. HAVING FEWER THAN THREE SUITABLE SITES AFTER CHARACTERIZATION WILL ENSURE A POLITICAL FAILURE. SUCH A POLITICAL FAILURE WOULD MOST LIKELY OCCUR DURING THE REPOSITORY LICENSING PROCESS.

ON AUGUST 1, I TESTIFIED BEFORE THE HOUSE SUBCOMMITTEE ON ENERGY CONSERVATION AND POWER OF THE HOUSE COMMITTEE ON ENERGY AND COMMERCE. I TESTIFIED THAT THE EFFORT TO SITE A HIGH-LEVEL REPOSITORY IS ON THE WRONG TRACK. PUBLIC CONFIDENCE IS ALREADY AT A LOW POINT. I RECOMMENDED A PAUSE IN THE HEADLONG RUSH TO SITE A REPOSITORY AND THAT NON-USDOE EXPERTS BE ASKED TO REVIEW THE RANKING METHODOLOGY. THAT PROCEDURE SHOULD SET ASIDE POLITICAL

CONSIDERATIONS AND FOCUS ON A SINGLE ISSUE--THE ISSUE OF SAFETY. I HOPE THAT THE QUALITY AND SCOPE OF THIS REVIEW IS SUFFICIENT TO PUT THE SITING EFFORT BACK ON THE RIGHT TRACK.

BEFORE I END MY TESTIMONY, I WISH TO COMPLIMENT THE NUCLEAR REGULATORY COMMISSION AND ITS STAFF FOR THE QUALITY AND OBJECTIVE NATURE OF THEIR BASALT ISOLATION PROJECT WORK. THIS MOST IMPORTANT WORK REQUIRES A STANDARD OF EXCELLENCE. WE HAVE RECEIVED TOP LEVEL TECHNICAL PERFORMANCE FROM NRC. AS A RESULT WE NOW HAVE HIGH CONFIDENCE IN NRC. WE ARE CONCERNED THAT AN INCORRECT DECISION ON THE TIMING OF A PRELIMINARY DETERMINATION OF SUITABILITY WILL NOT ONLY AFFECT NRC'S PERFORMANCE, BUT ALSO PLACE NRC IN AN UNTENABLE POSITION WHEN THE LICENSING DECISION IS BEFORE IT.

IN SUMMARY, THE NUCLEAR WASTE POLICY ACT REQUIRES THAT PRELIMINARY DETERMINATIONS OF SUITABILITY FOR THREE POTENTIAL REPOSITORY SITES FOLLOW SITE CHARACTERIZATIONS. IF USDOE MAKES A PREMATURE PRELIMINARY DETERMINATION, LEGAL CHALLENGES WILL CERTAINLY DELAY THE REPOSITORY PROGRAM. IT RUNS COUNTER TO NWPA'S INTENT OF SITING A SAFE REPOSITORY WITH A SUPPORTABLE PROCEDURE. A DETERMINATION AFTER CHARACTERIZATION WILL PROTECT PUBLIC HEALTH AND SAFETY, ENSURE PUBLIC CONFIDENCE AND COMPLY WITH THE NUCLEAR WASTE POLICY ACT.

Senator DOMENICI. Mr. Kevin Gover, representing the Nez Perce Indian Tribe, State of Idaho.

STATEMENT OF KEVIN GOVER, ATTORNEY, ON BEHALF OF THE NEZ PERCE INDIAN TRIBE OF IDAHO

Mr. GOVER. Thank you, Mr. Chairman. I'm representing the Nez Perce Tribe of Idaho, one of the three affected tribes under the act. And I'd like to thank you and your staff for accommodating us on the basis of a late request to appear, and subscribe to Suzan Harjo's comments, that you always been quite sensitive and responsive to our request.

One of the advantages of testifying near the end of the day is that all of your material is used up and you don't to have to talk for very long.

We would subscribe to the comments of the State and tribal representatives on the matter of the preliminary determination. I would add one thing that has not been raised explicitly today, and that's the problem with regard to the Nuclear Regulatory Commission's concurrence in the siting guidelines. They expressed their belief at least that they had reached an agreement with the Department that the preliminary determination would proceed or would come at the end of the characterization process.

I think that may be the most ripe grounds for litigation in the end is litigation challenging the validity of the concurrence in light of the fact that there seemed to be an agreement on the matter.

Our second concern, our second major concern has to do with the schedule and again we would agree with the comments of the other States and tribes on the matter. Our primary concern in that regard, along with the safety issue, of course, is that DOE not rush the process in terms of our ability to respond completely to the various reports and studies that come out in the course of the process.

DOE has been reasonably responsive in the past on the environment assessments. They did extend the deadline for State and tribal comments—we did appreciate that, and hope that that will continue to be their practice in the future—when the States and tribes virtually unanimously agreed that there was a need for more time.

A final comment is one that's difficult to support expressly under the mission plan, but that is that this is DOE's first experience or first major experience in a programmatic sense of dealing with Indian tribes. And one of my concerns just in reading the mission plan and its tone was that there seems to be, at least as of yet, little appreciation in the Department for some of the special concerns that tribes have.

Just in the case of the Hanford site, the three affected tribes all are concerned and have standing to participate in the process due to their fishing rights in the area. And yet I found no indication in the mission plan that there was an appreciation of that on DOE's part and how important the fishing right and the fish themselves are to the tribes and their cultures and religion.

We will have the opportunity to educate the Department on these matters, and we certainly intend to try to do so. I hope that they will be as receptive as they appear to be in responding to our concerns in the future. And I do have a written statement which I'd like to submit for the record.

Senator DOMENICI. Thank you very much.

[The prepared statement of Mr. Gover follows:]

TESTIMONY OF THE NEZ PERCE TRIBE OF IDAHO BEFORE THE SUBCOMMITTEE ON ENERGY RESEARCH AND DEVELOPMENT OF THE SENATE COMMITTEE ON ENERGY AND NATURAL RESOURCES

Mr. Chairman, I am Kevin Gover, an attorney for the Nez Perce Tribe of Idaho. I am grateful for this opportunity to present the views of the Tribe to the Committee.

We have three primary areas of concern with regard to the Mission Plan submitted to Congress by the Department of Energy ("DOE"). Our first concern has to do with regard to the timing of the preliminary determination of suitability required by section 114(f).

By its terms, section 114(f) requires DOE to consider as alternatives for the first repository three candidate sites as to which, first, characterization has been completed and second, a preliminary determination of suitability has been made. The sequence of the two requirements in section 114(f) -- on their face, at least -- seem to require characterization before the preliminary determination of suitability.

Moreover, direct support for this interpretation appears in the debates on the bill. Representative Ottinger stated specifically that

> It is envisioned that this preliminary determination would occur late in the site characterization program. It would make little sense for this determination to be made prior to a detailed understanding of the sites' geologic characteristics. 128 Cong. Rec. H8796 (December 1, 1982).

If the DOE's interpretation of section 114(f) is accepted, it robs the preliminary determination of any significance. If DOE merely may determine preliminarily that the three sites to be characterized are suitable for development of a repository, then the preliminary determination is no different than the decision to nominate candidate sites. In other words, DOE maintains that the nomination for characterization and the preliminary determination of suitability are one and the same, thereby destroying the significance of the preliminary determination required by section 114(f).

We also note that, whatever the correct resolution of this issue of statutory interpretation, DOE's inconsistency in interpreting section 114(f) has great potential for disrupting the progress of the program.

From a policy perspective, we believe that characterization prior to preliminary determination is the more sound procedure. Congress must have wanted the preliminary determination to be a decision of some significance. And if the decision is a significant one, it obviously should be made only on the basis of the greatest possible amount of information. The process of characterization yields information and, therefore, should precede significant decisions whenever possible, including the preliminary determination. In this way, the protection of public health and safety is better served.

Finally, as a practical matter, the Commission and DOE will spare themselves a number of problems by agreeing that characterization will precede the preliminary determination. As we have noted, the existing situation invites litigation and is a demerit on the record of the program. Unlike many problems, however, these are capable of correction. If DOE and the Commission simply agree that characterization will precede the preliminary determination, the problems we have discussed will disappear and no new problems from such a decision are readily foreseeable. Specifically, DOE seems to be reneging on a commitment made to the Nuclear Regulatory Commission and to the public that characterization would occur prior to the preliminary determination of suitability. As you know, the Commission's concurrence in the siting guidelines is required by the Act. Our reading of the Commission's Concurrence Decision of July 10, 1984, is that characterization must occur before any preliminary determination of suitability. In fact, the Concurrence Decision cannot be read any other way.

The Concurrence Decision states that

> At the June 22, 1984 Commission meeting, the Commission and DOE agreed that the preliminary determination required by section 114(f) of the NWPA should be made after the completion of site characterization and not at the time of site nomination and recommendation.

If DOE did not agree with the Commission's explanation of the agreement reached in June of 1984, it should have said so. DOE's current position creates at least two significant problems.

First, it calls into question the validity of DOE's siting guidelines. Because the Commission must concur in the siting guidelines, and because DOE now intends to violate a specific term of the Commission's written concurrence, the validity of DOE's plan of operation is open to question. In fact, DOE has practically asked to be sued on the matter.

Second, when NRC announces that DOE has agreed to something, and DOE much later denies that agreement, public confidence in the process -- including the confidence of the Nez Perce Tribe -- is shaken. The only way to minimize the inevitable controversy is to show the public that when DOE and NRC say a certain procedure will be followed, it will be followed. Shifting and contradictory interpretations and agreements undermine the credibility of both agencies and, therefore, diminish public confidence in the process.

Our second major concern is with the schedule. We believe that DOE is unreasonably optimistic and naive in many of its assumptions and projections. DOE seems determined to take a "damn the torpedoes" approach to the program schedule. One of the many torpedoes well may strike home and stop or significantly delay actual acceptance of nuclear waste for storage.

DOE's seeming refusal to acknowledge the very real potential for delays in the program harms public confidence in the program in two ways. First, the announcement of a deadline that is unlikely to be met leads to a lack of public confidence when the deadline passes and the facility is not yet ready. Second, if DOE is perceived to be rushing to completion despite the existence of obvious and unresolved problems, the affected communities well may question the safety of the facility.

Finally, we hope that DOE is sincere in its response to several comments to the effect that the periods allowed for public comment will be insufficient for meaningful input by tribes, states and the public at large. DOE promises to consult with these parties, continuously re-examine its proposed schedule and amend that schedule when necessary. The problem, of course, is that the Mission Plan is the operative document and DOE always can refer back to the Mission Plan to support a refusal to extend comment period deadlines.

We would be far more sanguine regarding this matter if DOE included in its Mission Plan a clear statement to the effect that where the clear majority of states, tribes and federal agencies believe a time extension is necessary, such an extension will be granted.

Finally, we are concerned generally with the Mission Plan's failure to identify issues requiring special sensitivity to tribal concerns. The Plan broadly asserts an intent to cover all relevant issues, but evinces no understanding that Indian treaty, cultural and religious issues may differ substantially from the concerns of non-Indian populations. Indian people enjoy special protections of tribal and federal law when on their reservations or within treaty-defined usage areas. Unlike the population at large, which suffers no loss of rights when moving from place to place, when Indians leave tribal jurisdictions they suffer real and substantial losses. In short, we basically do not have the option of leaving if a repository is built on or near Indian Country.

This program being DOE's first extensive contact with Indian tribes, we are deeply concerned that DOE will be unable to comprehend, let alone address, the sorts of concerns which are unique to Indians. The Mission Plan's failure to recognize that the concerns of Indian people and those of the population at large may differ lends credence to the view expressed by some that we have little chance to influence DOE decision-making.

Again, Mr. Chairman, we are grateful to have been accommodated on short notice by your staff. I would be happy to try to answer any questions you may have.

Senator DOMENICI. I'm going to have to go vote. Senator Hecht will return in just a moment. I'm sure he's en route. Let me say, even before the last panel appears, I'm not certain that I will be able to return. I will try, but Senator Hecht will preside.

For all of you who represent States and Indian tribes or entities, I hope you understand that some of us, perhaps all, but speaking for myself, I think I understand the enormous problem that this kind of activity presents to your respective States, to the Indian people. And clearly it is a very, very difficult technical and political issue and there's no doubt about it.

And if there is any way we can make this process more susceptible to—use your phrases—"confidence," clearly that's our job. I'm hopeful that, conversely, you as representatives of your respective entities, be it States or Indian tribes, are also approaching it from the standpoint that there is a responsibility on your side to be objective also.

And I would submit we all have difficulty with that in matters of this type. It is very easy to politicize these issues. We understand; it's happened to each of us in our involvement in nuclear legislation up here. I certainly did not intend, and hope you understand, in any way, because of my own experiences in this field, to prejudge anything. We had this hearing because we want to find out. We do know that it's a very critical issue for our country, and we do know that there are some who would like to see us never solve it. And that's not you all, and I don't mean to imply that at all.

But there are some who would think so poorly of nuclear energy that they would like this issue, this problem never be solved, and I think you understand what the consequences of that are for nuclear energy that exists now and in the future.

With reference to military wastes, I am impressed with the discussion you've made today about your State, the State of Washington. I am also pleased to hear you say in spite of the problems, that you do concur, that we should not be on two paths; set up a defense depository in this country, subject to Nuclear Regulatory licensing, and another for civilian. Really, we all found that was not a very practical, in fact in some respects, rather dumb, and we're very thankful that Congress ended up, in its wisdom, leaving the option and saying that the President made the findings; we got around the Defense Department, who for some time wanted their own. We at least compliment all of you in that respect for not trying to raise that issue and make it as if it were two.

But clearly some questions have to be answered about the retrievability of the decision that was made with reference to your State and we will ask those questions in more detail as a result of this.

The recurring issue of the Department placing too much emphasis on its work that occurred prior to the passage of this act in site selection, you've raised an issue that I am not sufficiently familiar with, and I will try to get more familiar with it. I hope it is not as bad as most of you have indicated in reference to its effect on its long-term potential and viability of this program.

I mean we are going to have to select some sites, and I think we all know that. And perhaps for some, we would wish the site would always and forever be elsewhere, and maybe that's part of the psychology that goes on down below on the part of some people. I'm certainly not saying that of any of you or any of your respective chief executives or Governors or Indian entities.

So I am going to thank all of you and the next panel that will appear in advance for your help, and Mr. Rushe, you'll have a lot of questions to answer for us and for them and we'll try to do our best to use this as a means of educating ourselves a little better in getting some information out.

And I hope I don't miss this vote.

Senator HECHT. I asked them to hold it for you. I said I had to come back and relieve you. It's a very important vote.

Senator HECHT [presiding]. Mr. Loux.

Mr. LOUX. Yes.

Senator HECHT. Excuse me. How do you exactly pronounce your name?

Mr. LOUX. Lux.

Senator HECHT. I thought so.

I'd like to read a quote attributed to you in the September 7 edition of the Las Vegas Sun. "DOE will never pick Texas for political reasons and Washington cannot meet license requirements of the NRC, and that means we're being railroaded."

Did you say that?

Mr. LOUX. Senator, I think that's slightly misquoted. As I think the Senator from Louisiana indicated earlier, sometimes the media does not get those things accurate.

Senator HECHT. I never knew that, being in politics.

Mr. LOUX. I didn't think that you did. I'd like to clarify that if I can. The fact, as I indicated in my testimony, that the Department would like to make this preliminary determination of suitability before characterization, coupled with the statements that they feel like only one site need survive site characterization, the implication could be by many that a site is being railroaded, such as Nevada.

And there are others who are implying that a site in Texas can never be selected for their very strong and numerous congressional delegates, and there are certainly many people—in fact, most scientific entities outside of DOE believe that the Washington site is largely unlicensible.

Senator HECHT. What evidence can you submit to us that substantiates your contention that Washington State cannot meet license requirements of the NRC?

Mr. LOUX. The NRC staff itself has severe reservations about that capability, as does the Geologic Survey, two of the most prestigious technical groups in the country.

Senator HECHT. Mr. Rusche, I appreciate the fact that you are staying here. Would you mind taking a seat up here?

I saw that you did not totally agree. Coming from Nevada, I can read faces playing poker, see, and I could tell you did not completely agree with that statement. Would you like to comment on it?

Mr. RUSCHE. Yes, sir. I'm not sure what Bob has in the back of his mind about some of these things, but it is true that there are many questions about the Washington site, as there are about the Nevada site, which will only be determined definitively when we complete site characterization.

I would, without trying to take an argumentative view, note that we have specific comments on the environmental assessments from the NRC which say they believe there are now no bases for disqualifying any of the sites, including the Washington site; from the USGS, and I believe the USGS has submitted testimony to this subcommittee which says as much this very day.

Therefore, I would disagree with Mr. Loux that even the USGS or the NRC would say the State of Washington may never be licensed. If that is the NRC's view, I think it would be incumbent upon them to make it very clear that we not go spend a couple billion dollars.

I do not believe that to be the case, and I believe the statement misrepresents the situation.

Senator HECHT. Since we have a discrepancy of views, would you mind telling us who said these things? Who in the NRC?

Mr. LOUX. There are members of each of those bodies, for instance, a fellow named Dr. Donald White from the U.S. Geologic Survey, that takes some exception to the view put forward by Mr. Rusche at this point. And I suspect individual technical members of the NRC staff would have some exception to that as well.

Senator HECHT. You know, you're talking about a huge sum of money, perhaps in the area of $800 million to $1 billion. Is that correct, Mr. Rusche?

Mr. RUSCHE. Yes, sir.

Senator HECHT. And certainly if someone has predetermined this, we should have the right to know about it in the Senate.

Mr. LOUX. I certainly would agree with that.

Senator HECHT. I would like to ask these different individuals, as a matter of record, if you would submit it to us, we would like to question them on it. You mentioned two people which I'm not aware of.

I want the record to make sure these people are picked up. [Laughter.]

You mentioned two individuals just now.

Mr. LOUX. I only know one by name, Senator. There is a report around by a fellow named Dr. Donald White with U.S. Geologic Survey that has some differing views about this.

Senator HECHT. But you said someone from the NRC.

Mr. LOUX. I said there are likely to be members of the staff who at least would disagree with that view.

Senator HECHT. There are likely to be members of the staff. That is not a very substantive argument. There are likely to be something. I mean is it or isn't it? I mean are these people disagreeing or not?

Mr. LOUX. As I told you at the very outset, there are other people making those statments, and I'm just reiterating what they have said.

Senator HECHT. Who are these people that are making these statments?

Mr. LOUX. I mentioned Dr. Donald White.

Senator HECHT. Dr. Who?

Mr. LOUX. Donald White, W-h-i-t-e.

Senator HECHT. OK. What other persons?

Mr. LOUX. That's the only one I know by name.

Mr. RUSCHE. Senator, may I comment on Dr. White? Dr. White's letter was well considered in the environmental assessments. He was a member of a National Academy of Sciences panel who considered his views extensively in arriving at a conclusion to the contrary; not that the site was acceptable, but that the site deserved or was suitable for characterization as a potential acceptable site.

Mr. White's testimony and scientific information has been considered in extreme detail in the environmental assessments and in correspondence I've had with this body of Congress in the last 6 months.

Senator HECHT. Do you know of anyone else who's made any statements like this?

Mr. RUSCHE. No, sir.

Senator HECHT. Texas is indeed a large State, but it has two U.S. Senators, just like every State. What are the political reasons you referred to in the article?

Mr. LOUX. Again, it has been referred by many, not necessarily myself, that the Texas site may not be able to be picked because of the large numerical congressional delegation.

Senator HECHT. Any substantiation? Just a rumor. No more than a rumor is what you're saying.

Mr. LOUX. I think that even the Secretary of Energy has indicated that there are factors, that is, of political opposition in some States that would warrant, if it maintained their keeping from being selected.

Senator HECHT. There could be political opposition in all of the States. But, Mr. Rusche, is there any question that this is going to be a political issue?

Mr. RUSCHE. No, sir. It's going to be a political issue. It is in every State.

Senator HECHT. It is going to be a political issue.

Mr. RUSCHE. In every State, in every time.

Senator HECHT. All right. But are you taking the political ramifications into your site selection?

Mr. RUSCHE. I'm not either equipped nor authorized to at this stage of the game. Congress reserved for itself that choice when the State has the opportunity, should it be chosen as a host State, to express its disapproval. That should come about 1991. And at that time, for whatever reasons the State—political, social, economic, technical or otherwise—may make its view known and it will be up to this body to balance that against the good of the Nation.

Senator HECHT. But as of the moment, you are going ahead with your studies, and politics means nothing; is that correct?

Mr. RUSCHE. I wish I could say it meant nothing. It means a lot of time and a lot of effort and a lot of consideration.

Senator HECHT. But I mean as far as facts in substantiation of the three sites.

Mr. RUSCHE. I have great difficulty in finding facts in that environment. [Laughter.]

Senator HECHT. I appreciate your candor. It is something that I find lacking in Washington.

Mr. RUSCHE. Thank you, sir.

Senator HECHT. Mr. Loux, are you in touch with the Office of Civilian Waste Management within the Department of Energy?

Mr. LOUX. I have contact with them; yes.

Senator HECHT. Good contact?

Mr. LOUX. Yes.

Senator HECHT. Is DOE keeping you informed?

Mr. LOUX. Somewhat.

Senator HECHT. What does that mean?

Mr. LOUX. On occasion, we're very informed; on other occasions, we're not very well informed.

Senator HECHT. Have you notified them of this?

Mr. LOUX. Certainly.

Senator HECHT. And what has been the reaction?

Mr. LOUX. There has been some indication of apology for not doing a better job and some indication that things will improve.

Senator HECHT. You feel they're lacking in the information they're giving you?

Mr. LOUX. I certainly, on occasion, have felt that way in the past; that's correct.

Senator HECHT. How do you feel about that, Mr. Rusche?

Mr. RUSCHE. I'm quite aware of Mr. Loux's feeling and assessment. I had the opportunity to visit with the new legislative committee that was recently established by the Nevada legislature, to hear Mr. Loux and other members of the State speak, and I'm convinced that there probably are cases in which we have not been as responsive as we ought to be or need to be, and can be, and we are making a renewed effort to try to produce the best result that we can.

I doubt that we will ever be viewed as entirely adequate by Mr. Loux or any member of a State group. It is my commitment to do the best that we can and to respond positively in every case that we can.

Senator HECHT. So a greater effort is being made in that direction?

Mr. RUSCHE. It is.

Senator HECHT. What does the State of Nevada intend to do with the funds, $1.8 million, provided by DOE to conduct your own independent research?

Mr. LOUX. I do not have $1.8 million to conduct my own independent research. I have a general grant to do other activities with that $1.8 million.

Senator HECHT. For instance?

Mr. LOUX. We allocate almost a half a million dollars a year annually to the affected local governments in southern Nevada. We allocate $125,000 to fund the study group that Ben referred to a moment ago, the legislative study group. We have other funds earmarked for various transportation, socioeconomic studies, and of course our own State salaries and administrative costs of running an agency.

Senator HECHT. Isn't this money supposed to be to research?

Mr. LOUX. Absolutely not. We've been prohibited.

Senator HECHT. Do you want to comment on that, Mr. Rusche?

Mr. RUSCHE. The $1.8 million that Mr. Loux and you referred to is a general grant for the purposes he has described. You may be referring possibly to an initial factor in the grant or element in the grant which was, I believe, about $1.2 million, wasn't it, Bob?

Mr. Loux. $1.4 million.

Mr. Rusche. $1.4 million for the purpose of conducting exploratory examinations, borings and testings. And that was denied by the Department, and I had some discussion with you and others this morning as to the reason for such denial. We have committed to the NRC and to the States to make every bit of data available that we obtain.

We have committed and planned to assure that every bit of data that is needed will be obtained, and we are convinced that to have multiple parties conducting physical examination and borings of the site would be an absolute technical nightmare.

I refer to other activities in the past in which that's been the case. NRC has the same, but perhaps more rigorous obligation to the State, to evaluate what we are doing. We do not anticipate NRC conducting its own borings or testings, physical examinations of the sort, but rather to be an evaluator of what we have done. That's the right role for the State, we believe.

Senator Hecht. Is it also a matter of security of a test site that you cannot have independent people come out, unauthorized, without classification?

Mr. Rusche. That's not much of a factor in this case, in that the Yucca Mountain site will be accessible to all the parties that have a relevant interest in it to be physically present. That's not a factor.

Senator Hecht. Do you want to comment on any of his statements, Mr. Loux?

Mr. Loux. I think that he's accurately described the purpose of the $1.8 million and the purpose of the money that's under contention at this point is primarily, as he accurately described, for us to be able to do some on-site geophysical work that does include four boreholes, some 6 kilometers from the site. It does include the ability to fly over low Sun angle photography, to assess active fault movement. It does include the ability to sample DOE wells and to examine rocks in various trenches that have been dealt with, so it does include a variety of those sorts of activities, none of which by any stretch of the imagination could be conceived to construe jeopardizing the integrity of the site.

Certainly a borehole 6 kilometers from the outer boundary of the repository would have no jeopardy on the ability of the site to isolate and contain.

Senator Hecht. So you don't feel you've had adequate means to do your work?

Mr. Loux. I believe the Nuclear Waste Policy Act in saying that the State can engage in any testing, monitoring, evaluation activity it deems necessary to assure itself of public health and safety, anticipates those sorts of studies. And as you know yourself, in supporting our request, that in fact those studies are important and necessary.

Senator Hecht. In your prepared statement on page 7—I want Mr. Rusche to comment on this:

> All DOE would have to do is locate a site which was not disqualified because of the population factor contained in Section 112(a) of the Act and did not sit astride a major active fault or volcano, and it could be said that no data exists which proves that the site is not suitable for further investigation. Indeed, under that language,

> the less information and data available, the better, since no information means there is nothing to prove that a site is unsuitable for further investigation or characterization. Such an interpretation makes an absolute mockery of not only the language of Section 114(f) but Congress' intent in choosing that language.

Would you comment on that, Mr. Rusche?

Mr. RUSCHE. I think that the statement reflects a naivete that I think is inconsistent with the gravity of this program. The extensive work that has been done on both Federal sites and the extensive geohydrologic data that are available from surrounding activities for the other sites belies the very point that the speaker was making.

I believe that the guidelines do provide a basis for the utilization of much data that is available. I recognize the logical implications of the statement that no data for disqualification would carry the implication that no data would lead to such a conclusion, and the naivete is to suggest that one would consider such a matter in this context when there is the extremely large amount of data that is available on all of these sites, all of which has been described in the environmental assessments from which we've received many comments, including those from your State.

And I don't think there's any question but which we have a valid basis under the guidelines which have received extensive public involvement for making the statement that none of the sites are disqualified under the guidelines as a valid basis for making the determination of which sites to characterize.

Senator HECHT. One last question of your statement.

> In conclusion, Mr. Chairman, Nevada takes strong exception to the Department's interpretation of Section 114(f) allowing it to make a preliminary determination of site suitability before characterization even commences. We urge the Department to resubmit guidelines which allow for the selection of sites only on an objective scientific basis.

We went over that this morning. That was your statement. I want to hear Mr. Rusche's comment on that.

Mr. RUSCHE. Mr. Chairman, we have documented in the record our view on the subject. But, in short, I would say that we believe that the statement by the Secretary, or the certification by the Secretary of a preliminary determination adds the very confidence that we and the public ought to seek before we make a determination, before we make a choice to characterize such sites.

And we believe the extensive data contained in well over 1,000 pages of documentation on each of the sites, provides an entirely valid and complete basis for that preliminary determination. It is not a determination of suitability. And if I may use this moment to make one point that I believe has escaped all of our discussion today, it is perhaps an unintentional but nevertheless important confusion that the question of suitability is equivalent to licensability.

There have been several statements made that we have no authority and no prerogative of determining a site suitability. Suitability refers to, on the part of the President and the Secretary, determining that a site is suitable for a license application. We have no illusions, nor have we made any statements to the effect that such determination of suitability in any way predetermines what the outcome of the licensing process is going to be. That is the clear, exclusive prerogative of the Nuclear Regulatory Commission.

We do believe that the data that we have is an appropriate set of data to make the preliminary determination and that our making it at that time—that is, before characterization—provides confidence that the Secretary and I have given full consideration to the wisdom of spending the $2.3 billion to obtain the data for eventually making a choice on suitability.

Senator HECHT. Would you, in fairness, like to comment? Since I asked him first, I'll ask you if you have any comments on that?

Mr. LOUX. Could you repeat the question again. I got lost after following Ben's last remark.

Senator HECHT. Well, we'll go back again.

Mr. LOUX. Very good.

Senator HECHT. I just asked him to comment on the conclusion of your prepared statement. Do you want me to read it to you?

Mr. LOUX. Please.

Senator HECHT [reading].

> In conclusion, Mr. Chairman, Nevada takes strong exception to the Department's interpretation of section 114(f) allowing it to make its preliminary determination of site suitability before characterization even commences. We urge the Department to resubmit guidelines which allow for the selection of sites only on an objective scientific basis.

Mr. LOUX. As you are aware, Mr. Chairman, the siting guidelines by the Department of Energy are a subject of contention by nearly every State that's involved in this process. Five of the first six round States nearly—several other second round States, and in fact two States that are not even in this process are all filing objections to the siting guidelines, principally on the basis that they're not objective and don't provide the technical basis for making sound rational decisions.

So I don't think Nevada is alone in that regard, and I do believe that the siting guidelines need to be revisited and certainly tightened up. As I mentioned at the outset, none of the sites that existed at the time of the passage of the act have been disqualified as a result of the siting guidelines, indicating that the mesh may be too big. Every site going through it, they serve no purpose essentially.

Senator HECHT. One last question that was handed to me, and I think it should be spoken to for the record.

To Mr. Rusche. Is the DOE relying on some old geologic studies for characterization, or will all characterization work be based on new, modern studies and technology?

Mr. RUSCHE. Under the act, site characterization is a set of activities yet to be accomplished in the future, after we have selected three sites for characterization on the schedule that we're on now, early next year. All the data that will be available from site characterization will be new data, using the best methods and techniques that we know.

Senator HECHT. Thank you, and thank you very—yes, excuse me, Mr. Eschels.

Mr. ESCHELS. I'd like to add something to what the State of Nevada spokesman, Mr. Loux, said. Washington State is one of those which has brought suit against the Department about the siting guidelines. We're 1 of, I believe, 10 or perhaps 11 States that have done that.

It's the only suit we have brought. We're being very reserved, and when we have totally run out of patience with the normal administrative procedures is the only time we do that.

You probably know, and you've heard today, that Hanford is the most complex site that's under consideration at this point. I think there will have to be extensive studies, for example, to reliably conclude that ground water travel times can meet the EPA standards and the NRC requirement. In the draft environmental—excuse me—in the comments that the NRC filed about the draft environmental assessment, there is a quote: "Limitations of the available data do not allow high confidence to be assigned to any travel time estimates at this time."

That's the kind of overoptimism that does not give us any public confidence or any confidence for State people or members of the public. Our people that were engaged, our experts that were engaged by the State of Washington, independently of the U.S. DOE agree with that statement made by the NRC in its comments.

At this time, with the limited information that's available, U.S. DOE cannot demonstrate that a repository at Hanford is going to be safe. That's why we're calling it premature. We don't see an advantage to the Department or to the program. We certainly see the disadvantages because it is so weak.

We believe there will be successful lawsuits brought. We'll lose any time savings that they might otherwise have gained. I don't understand why the decision is coming at this point.

Senator HECHT. Maybe I'll have Mr. Rusche address that.

Mr. RUSCHE. Mr. Chairman, it is not the purpose of the program at this point to make a determination of safety for the sites. It is the purpose of the program at this time to find sites which we believe have a high probability of being found suitable.

I think that although all of us would like to know what the answer is going to be in the end from the beginning, I guess that's a normal human yearning, it is not the nature of the physical reality of the world, it is not what we are about today. We believe we've made a good investment choice, presuming the conclusion remains is that that's shown in the draft environmental assessments, that it's worth spending—in the case of the Hanford site, if that choice remains—about $900 million to investigate that site. Or, in the case of the site in Nevada, I believe about $700 million, as I recall.

Senator HECHT. The figure you gave me was $630. Are we up to seven now?

Mr. RUSCHE. I think it's up to seven now.

Senator HECHT. No wonder the Government's broke.

Mr. RUSCHE. Sir?

Senator HECHT. It went up $630 to $700 million in just a few days. So I mean, we haven't even begun yet; what's going to happen when you begin?

Mr. RUSCHE. We're beginning to develop the site characterization plans and I suspect by the time we have the opportunity to interact fully with the States and the NRC, we may find that there are other questions that need to be resolved, and in fact will add to the cost of the characterization.

Senator HECHT. Excuse me. Mr. Loux had his hand up before, and I'll call on you, Mr. Frishman.

Mr. LOUX. I just wanted to reinforce a comment in my testimony that indicates that until we see some resolution of the issue of four disqualifying factors we think are present at Yucca Mountain, based on our technical review of the draft environmental assessment, it certainly is premature to make a preliminary determination of suitability. And those issues have yet to be addressed, at least that we have seen.

Senator HECHT. Mr. Frishman.

Mr. FRISHMAN. Yes, thank you. I'd just like to do something here for the record. I noted when Mr. Rusche first came to the table that he recognized, in a discussion of Nevada sites, he recognized that the Department is aware of some technical uncertainties—or I believe he said "problems" with Nevada and with the Hanford site. And I would like to know for sure whether Mr. Rusche thinks there are any technical uncertainties with the salt sites.

Senator HECHT. I have no idea. I'll ask Mr. Rusche, OK?

Mr. RUSCHE. Oh, yes. There are great uncertainties with respect to the salt sites.

Senator HECHT. There are uncertainties.

Mr. FRISHMAN. Thank you.

Senator HECHT. Yes. Did you want to say anything, Mr. Palmer?

Mr. PALMER. If there are uncertainties, you asked the question about the use of what you called old studies. Since the mission plan shows that the investigations in the salt sites will be compressed on a timetable into about 8 months, which is far shorter than that for the other media, and in view of the fact that it's our understanding that the results of other studies elsewhere—like in Kansas, West Germany, Louisiana, in salt formations—may be used in a generic sense rather than to replicate similar efforts at the actual sites, our concern has been that this generic data, rather than site-specific data, might be used in the site characterization program.

I'd just like to know if you could get Mr. Rusche to address the use of those generic studies which might replace site-specific studies. That may go to your question about the use of old studies, or other studies.

Senator HECHT. I'll ask him. Mr. Rusche?

Incidentally, this dialog is good, and I thank all of you because I think this is where it should be, right here in a Senate committee talking about it, and I compliment all of you for engaging in this dialog. I think it's great.

Go on.

Mr. RUSCHE. I understand your statement about old studies to refer to the character of site characterization indicated we would obtain new information in site characterization. That will be the truth for the salt sites as well, for all of the sites, not only salt, but the basaltic or tough sites, or the crystalline sites. We will take data that is available currently in the world, and will be developed in the world, and to the extent that data is applicable by virtue of in situ studies in each of the sites, all of it will be used.

The problem one has before the fact is that we don't know whether it's applicable. It is the investigations that will determine whether that data from Germany or from Kansas or from wherever is applicable. And if scientific studies show that it is applicable, it will be used. But it depends on that new data to determine its applicability. So in that sense, I believe it fits the test that I said.

I would in no sense suggest that no data that has been obtained elsewhere will not be useful. A clear element in scientific study is bringing to bear all of the data, all of the information that's relevant to the subject, and we'll do that in this case as well.

Senator HECHT. There's been a lot of information put out on this tape of the hearing today. This is going to be more sought after than the Watergate tapes in years to come.

Yes, Mr. Loux?

Mr. LOUX. One final comment I'd like to make on, I guess, the rationale for the State to believe it needs to be doing technical studies at all. Two or three incidents, examples, come to mind that caused us to move in that direction. I think the most fundamental one was in us having observers on the test site or on Yucca Mountain observing the various preparation for tests and various kinds of things the Department was doing.

For example, the Department's preparation to drill the major bore hole that will provide the data on the unsaturated zone, or dry zone if you would, our technical people observed the Department's contractors dumping perhaps as many as 15 to 20 years' worth of annual precipitation to flatten the pad to set the drill rig up to drill the hole to instrument it, to see what the dry conditions were.

We thought there were some problems with that technique. We continue to think so. Apparently the Department does not. That prompted us to feel a need to test out perhaps some different ways of drilling holes dry that in fact would yield results that are perhaps more accurate.

Likewise, we point out that the ability of the Department to ascertain whether the aquifer under Yucca Mountain is connected to the regional system, their information is based on a 1964 U.S. Geologic Survey report, if I'm recollecting correctly, which has been routinely criticized as being inaccurate and not reliable by almost all of the scientists.

And we attempted to do some water sampling to in fact verify that study. We, in fact, wanted to do some low angle sun photography to verify the Department's high overhead vertical photography, to fact ascertain whether the faults were active and how far they had moved.

Those are the kinds of projects and programs of a research nature that we wanted to engage in, to actively, openly share that information with the Department, discuss it both ways—their information and our information. It would seem to me that the Department would welcome the verification, and we were candidly very surprised at their denial.

Senator HECHT. You should never play poker, Mr. Rusche. I looked at your face. Did you want to comment on that, because you had a look on your face.

Mr. RUSCHE. Senator, I'm not sure there's much else that I can say that would contribute to what we have discussed. It is true that we have a suit pending before the courts on this subject and I think the argument's been made pretty specifically

Senator HECHT. Mr. Kevin Gover, you haven't said anything. Is there anything you want to add to this? Everyone else has said something. I don't want to leave you out if you want to say anything.

Mr. GOVER. I have nothing more to say.

Senator HECHT. OK. Well, thank you all very much. It's been a good panel.

The next and final panel, would you please come up?

Thalia, you're in the wrong seat. We might have some TV coverage, so you better be in the right spot in case it shows back home.

Ms. Edwyna Anderson, would you start off, please?

STATEMENT OF EDWYNA G. ANDERSON, COMMISSIONER, MICHIGAN PUBLIC SERVICE COMMISSION

Ms. ANDERSON. Thank you very much, Senator Hecht.

I am Edwyna G. Anderson, commissioner of the Michigan Public Service Commission, a member of the National Association of Regulatory Utility Commissioners, commonly known as the NARUC. I'm a member of its Committee on Electricity, as well as its Subcommittee on Nuclear Issues and its Subcommittee on Nuclear Waste Disposal, which I chair.

I am testifying today on behalf of the NARUC and I'm accompanied by staff members, Ronald C. Callan and Fred Haig.

The NARUC is a quasi-governmental, nonprofit organization founded in 1889. Within our membership are the governmental agencies of the 50 States, the District of Columbia, Puerto Rico, and the Virgin Islands, engaged in the economic regulation of utilities, including those now operating nuclear-powered electric-generating stations.

The NARUC's review of and conclusions on the DOE program are still under development and are expected to so continue in the foreseeable future. However, we find it important to release these observations of the program and its conduct in the hopes of focusing early attention on any necessary corrective response. We conclude that it is too early to decide if the Federal Nuclear Waste Disposal Program will be successful; that is, that it will reach the goal of safe, timely, and cost-effective disposal of all the Nation's spent reactor fuel and defense wastes.

We note that the Federal disposal effort is more than 30 years old. The present program is more than 2 years old, and the DOE currently is expending funds at the rate of about $700 million per year. We emphasize, in keeping with our regulatory responsibilities, that all ratepayers of utilities operating nuclear electric plants are now being assessed through their monthly electric bills at the rate of 1 mil per kilowatt hour for this decades-long Federal program.

Ratepayers—ratepayers—are the source of all revenues.

The NARUC finds, first, that program cost estimates are not released with program revisions because they're not developed. Thus, cost simply is not a decisional factor in the DOE program planning.

Second, many deadlines, both those mandated by the Nuclear Waste Policy Act and those announced as internal decisions of the DOE have been missed. Program delays are evident and recognizing that the present disposal program is now some 2 years old, with 20 years yet to go, the threat of a substantially longer project with the inherent cost increases appears possible.

The DOE has made a commendable effort to engage the public and State governments in productive encounter, but the response, as we have seen today, has not been favorable. There remains the need for effective public education and acceptance of the DOE response to public and State and local government concerns. Full and fair public hearings are a must to shorten program development time and costs.

Fourth, overall program management remains of concern. The DOE's field office approach has been criticized. The very large percentage of total expenditures by contractors raises questions of programmatic and fiscal control. Programwide planning and control system still is not in place.

Fifth, we have found no evidence that the very large departmental program expenditures, especially in view of the fact that construction has not yet commenced, have been independently, thoroughly reviewed. The GAO's finding that periodic and uniform contractor audit has not occurred is disturbing.

Sixth, we have a sense that the DOE, when anticipating even larger than announced future program increases, may tend to look to fee increases as solutions, we must emphasize that there is a limit, both considering equity and ability to pay, to funding by ratepayers for nuclear waste disposal.

Seventh, there is a crucial need for overall acceptance by DOE observers, critics, and correspondents of the mission plan as a vehicle that delivers a conservative, predictable, and successful program that will conclude on a reasonably certain schedule, one that utilities can confidently employ in their planning.

Eighth, the NARUC is troubled by the prospect of discussion and decision, totally internal to the DOE of what are to be equitable payments to the Nuclear Waste Fund for defense waste disposal. The fund must soon receive payment for the fair share of embedded costs and for the time value of money not contributed to date.

The defense payments decision by the DOE must receive adequate review and all needed revisions incorporated in the final financial assessment. Ratepayers should not be left holding the financial bag.

Finally, the NARUC is concerned with the need for intense attention, review, and audit both internally by the DOE, externally by the Congress and whoever else it designates, and others of the issues we have raised and those brought forward by intelligent and constructive program critics.

The strengths, problems, and prospects for this latest national program must be determined and the necessary corrections made promptly for cost sake, among other things.

These findings are spelled out in far greater detail in my 22 pages of written testimony which I respectfully request be bound into the written record.

Senator HECHT. It will be a part of the record.

Ms. ANDERSON. Thank you.

The NARUC is very appreciative of the opportunity to address the Congress on this issue of such importance to nuclear electric ratepayers across the country. It is our duty and our pleasure to attempt to contribute to the evaluation of this difficult program. It is our intention to use our expertise in the parallels of nuclear powerplant construction to contribute to the strengthening of the program so as to lead to its success, an objective that should be on everyone's agendas.

However, the NARUC cannot in the alternative sit by and wait for the manifestly easiest temporary solution—the raising of the Nuclear Waste Fund fee.

Thank you very much.

Senator HECHT. Thank you very much.

[The prepared statement of Ms. Anderson follows:]

UNITED STATES SENATE
COMMITTEE ON ENERGY AND NATURAL RESOURCES
SUBCOMMITTEE ON ENERGY RESEARCH AND DEVELOPMENT

TESTIMONY OF THE

NATIONAL ASSOCIATION OF REGULATORY UTILITY COMMISSIONERS
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ON THE

MISSION PLAN FOR THE CIVILIAN RADIOACTIVE WASTE MANAGEMENT PROGRAM

SEPTEMBER 12, 1985

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Chairperson Domenici and Members of the Subcommittee:

I am Edwyna G. Anderson, Commissioner of the Michigan Public Service Commission, a member of the National Association of Regulatory Utility Commissioners (commonly known as the NARUC), and its Committee on Electricity, as well as its Subcommittee on Nuclear Issues and its Subcommittee on Nuclear Waste Disposal. I am testifying today on behalf of the NARUC and am accompanied by Subcomittee Staff Coordinator, Ronald C. Callen; Staff member Fred G. Haag; and the NARUC's Director of Congressional Relations, Karen L. Hochstein.

The NARUC is a quasi-governmental, nonprofit organization founded in 1889. Within our membership are the governmental agencies of the fifty states and the District of Columbia, Puerto Rico and the Virgin Islands engaged in the regulation of utilities and motor carriers. Among other duties, the NARUC is the national representative of state commissions responsible for the economic regulation of utilities now operating nuclear-powered electric generating stations. As such, these commissions have been charged under law with the task of ensuring that the power provided by such generating stations is reliable and just and reasonably priced --- in short, that the public interest is protected.

My colleagues in state utility regulation and I greatly appreciate your invitation to testify today on an issue of great importance to ratepayers who receive electricity from nuclear power facilities --- the implementation of the Nuclear Waste Policy Act of 1982 (the Act) and the guiding Mission Plan for the Civilian Radioactive Waste Management Program (DOE/RW-0005). This unique, prescriptive law represents to us the embodiment of national policy on one of the most elusive socio-technical problems of modern times, the disposal of high-level nuclear waste.

Public utility commissioners across the nation have taken note of the Nuclear Waste Policy Act and its major effect on their conduct of electric utility regulation, including the impact on ratepayers. First and most important to our responsibilities, all ratepayers of utilities operating nuclear electric plants are now being assessed through their monthly electric bills for the entire cost of the decades-long federal high-level nuclear waste disposal program. Secondly, the orderly and predictable cost-effective removal of spent reactor fuel from temporary storage at in-state nuclear reactor sites is important to regulators in ensuring public safety and protecting expensive electric production capability. Lastly, the emplacement in a cost-efficient fashion of such highly radioactive wastes in a repository designed and constructed to safely isolate this long-lived radiation is of the utmost importance.

The creation of the Nuclear Waste Fund under Section 302 of the Act results in the assessment of one mill for each kilowatt-hour of electricity generated by nuclear fuel. Despite frequent references to utilities which are called on to collect the money, it is ratepayers who are the source of all waste disposal revenues.

For these reasons the NARUC established, by unanimous resolution at its 1984 annual meeting, its intention to investigate and monitor on an ongoing basis the national nuclear waste disposal program. The NARUC seeks to provide critical information to commissioners in all states and to impart to the Congress and the U.S. Department of Energy (DOE) the NARUC's unique expertise in utility regulation so as to enhance the federal program and assure that ratepayer funds are utilized most effectively. To implement the resolution, a standing Subcommittee on Nuclear Waste Disposal was established. This Subcommittee of the Committee on Electricity represents the views and position of the NARUC as contained in this statement.

The NARUC's Overall Position on the Federal High-Level Nuclear Waste Program

The driving force behind the NARUC's involvement in this federally-mandated process is the concern for sound fiscal management of the program. Recognizing the technical complexity, the public apprehension, the need for absolute assurance of safety, and the necessity in the public eye for administrative credibility, it is no wonder this program represents a vast financial commitment, now estimated to total $25 to 35 billion. And those program costs are all but assured to increase. My colleagues and I in commissions across the nation are required by law to judge the fiscal bases for the reimbursement by ratepayers of every penny of nuclear waste program payments made by utilities to date.

We face the prospect of further such reimbursement requests until the program ends some time in the next century. Thus, our central objective must be to assure ratepayers within our regulatory jurisdictions that their funds are being utilized wisely; that the management of this project is no less than excellent; and that, while efforts to minimize total costs are not undertaken in some "penny-wise pound-foolish" way, all controls, decisions and tasks are prudently and cost-effectively designed and carried to completion.

In identifying our designated responsibilities, the NARUC sees clearly roles that are not ours. We recognize the important role the Act has thrust upon us, but we also note that there are many other entities and institutions that have a part to play in this unfolding effort. We are not technical experts on nuclear issues and we will not invade that province. We are not charged with the responsibility to make judgments on safety. That responsibility rests with the U.S. Nuclear Regulatory Commission (NRC) and the U.S. Environmental Protection Agency. We recognize other authorities in state governments who are designated and mandated to address repository siting decisions. The NARUC believes, however, that whatever contribution we and others provide to a fiscally well-managed, well-planned and well-executed program will also contribute to the safety of the overall program.

It is essential for the Congress to understand that our attention to this program conveys no lack of confidence in its management by the DOE. Recognizing the cost, scope and importance of the present effort, we of the NARUC must note, however, that the present DOE management and program represent only the latest in a long series of such efforts over a 30-year period, each devoted to solving the high-level nuclear waste problem. The fact is readily apparent that in the more than 30 years that have elapsed since nuclear power for peaceful purposes came into existence, program after program for disposal of nuclear waste has been planned, authorized, forces deployed, and then vanished, all without the disposal of a single spent fuel assembly. The NARUC believes it must expend every reasonable effort to contribute to the assurance that this latest, by far most costly, program is the final one, final because it has been successful. That goal brings us before you today to testify on the Mission Plan for the Civilian Radioactive Waste Management Program (Mission Plan).

Nuclear Electric Power Plant Construction

In attempting to place in focus the concerns and recommendations of the NARUC on high-level waste disposal program embodied in the Mission Plan, it is essential that the Congress first understand some of the painful learning experiences that public service commissioners have accumulated from nuclear power plant construction review. That this experience carries messages for the waste disposal program rests, to be sure, with the obvious nuclear focus of both arenas, but much more with the fact that this nation is once again moving toward construction of a very expensive first-of-a-kind facility proposed and licensed at the federal level. The safety licensing agency, the NRC, has repeatedly announced that cost occupies a lower priority on its agenda. It will be able to make changes in definition of an acceptable final facility throughout the construction program and perhaps even beyond. The constructor, the DOE, while possibly sufficiently cost-conscious, far more than finishing at a responsible final cost needs to finish, perhaps at all costs. Finally, total costs are to be laid at the feet of, or more aptly, in the pockets of ratepayers. Public service commissions are faced with the unenviable task of determining whether all future costs have been discovered and whether, to date, program costs were prudently incurred. Were the NARUC to wait for the present waste facility program to be concluded, as the regulatory scheme has called for with nuclear power plants, the resultant built-in gap in regulation would call for public service commission approval of every expense after the fact. If a less than complete or cost-effective program were conducted, the NARUC members would be left holding the fiscal bag, attempting to ferret out hidden construction or yet undiscovered operating or repair costs still to be passed on to ratepayers.

This is not a comment on the viability of the nuclear option. Rather, the NARUC is painfully aware that the national experience with deployment for generation of the nuclear option ranges from excellent to abysmal. You are aware of the troubled, expensive and varied history of the construction of nuclear electric generating stations. Whereas all nuclear construction completion costs have soared to levels never imagined by anyone years ago, the even more astounding fact is that despite massive infusions of capital, many plants were never finished. On the other hand, not all nuclear plant projects have been troubled. Why did all this happen? Why have these companies had such different degrees of success? Is there a reasonable answer to the widely-varying results of performing essentially the same job? There are many reasons offered and perhaps all have some relevance. They include inflation, the influence of an aroused public, the very noticeably heightened regulatory activity of the NRC, the failing financial health of the electric industry, the dearth of capital, the declining demand for electric energy and the effectiveness or ineffectiveness of utility management itself. According to the U.S. Congressional Office of Technology Assessment,[1] seven major social institutions --- utilities, investors, the nuclear industry, nuclear critics, the public, the NRC and state public utility commissions ---all have played a significant part in this controversial technological evolution. The NRC[2] has some answers to our questions. So, too, do the Missouri Public Service Commission,[3] the New York Public Service Commission[4] and the Michigan Public Service Commission.[5] So do Forbes Magazine[6] and the present Secretary of Energy.[7] They all point to, among many other factors, the level of competence and aggressiveness of project management. The evidence points to management --- some, not all --- that underestimated the size and scope of the task before them and, as the challenges grew and complexity increased, repeatedly continued to underestimate the challenge.

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[1] Nuclear Power in an Age of Uncertainty, Washington, D.C., U.S. Congress, Office of Technology Assessment, OTA-E-216, February, 1984.

[2] W. Altman, T. Ankrum, W. Brach, Improving the Quality and the Assurance of Quality in the Design and Construction of Nuclear Power Plants, NUREG-1055, Washington, D.C., U.S. Nuclear Regulatory Commission, May 1984.

[3] Report and Order, In the Matter of --- Callaway Nuclear Plant ---, Jefferson City, Missouri, Missouri Public Service Commission, March 29, 1985.

[4] Release, "Commission Cuts $1.35 Billion from Shoreham Cost on Finding of Imprudence by LILCO," New York Public Service Commission, June 26, 1985.

[5] Staff of the Michigan Public Service Commission, Staff Investigation of Enrico Fermi 2 Nuclear Power Project, Michigan Public Service Commission, Lansing, Michigan, February, 1984.

[6] James Cook, "Nuclear Follies," Forbes Magazine, February 11, 1985.

We are sadder, but perhaps wiser, veterans of a process in which gaps in interests and responsibilities among utilities, state and federal regulators and others appeared, remained unresolved and which in the end were and will be left to public service commissions to overcome. We must then determine what impacts resulted and assign financial responsibility between shareholders and ratepayers according to what is prudent and what is not.

There are two very central conclusions we wish to draw from this brief description of a lengthy, complex, arduous, expensive and controversial experience. The first is that, despite all the acknowledged changes, interruptions and reconsiderations, there are well-managed plants whose overall costs are, on an industry-wide basis, within reasonable limits. That is to prove that the job can be done.

The second is that there are gaps in regulation of nuclear plant construction among and between safety considerations that influence design and redesign, the response of utility management in controlling construction by contractors, and the ultimate act by utility commissions in sorting out legitimate construction costs from imprudent cost overruns.

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[7] John S. Herrington, "The Challenge For Nuclear Power," Washington, D.C., Address by the Secretary of Energy, May 8, 1985.

We see these expensively-obtained conclusions as directly and fully applicable to the nuclear waste disposal process. Consider the first. The effectiveness of nuclear waste program management will assuredly have enormous impact on the cost of the final repository and on the overall disposal program. It is, therefore, the NARUC's intention to do whatever it can to contribute to the understanding of the extreme importance of excellent program management and to take whatever measures it can to help assure such management. This input must be made at the outset, especially early in the design phase. Clearly, we cannot await the close of the program only to be met with untenable financial consequences comparable to the size of nuclear power plant construction overruns.

Secondly, the NARUC seeks to reach out to overcome any jurisdictional, management or regulatory gaps among major partners in the waste program, without interfering with any other entity's purview or prerogative. However, that means that we will not wait until 1990 or 2010 for whatever price tag may eventually result from the deliberations and conclusions of the other parties. Our mandated responsibility to ratepayers requires our full involvement from the start of the assessment of the nuclear waste project to assure that cost-effective decisions are made throughout the program. We cannot willingly and passively allow for repetition of nuclear power plant experiences in which early, preconstruction estimates of total plant costs turned out to be far less than even final interest charges. Thus, we of the NARUC pledge our best effort to cooperate and to share whatever is relevant in our experience so that the disposal program will be safe, successful and cost-effective.

Since ratepayers, who now are the full financial providers of the nuclear option, will continue to be so assessed as long as the expenses are legitimate, it is the NARUC's responsibility and desire to contribute to the program to:

(1) share with federal authorities our experience and expertise in nuclear project management assessment;

(2) see that no jurisdictional areas are left untouched, thus eliminating or overcoming any gaps in the regulatory process;

(3) assure all possible cost-consciousness is exerted in the conduct of the program;

(4) assure ratepayers that the NARUC is contributing to the development of a safe and successful disposal program; and

(5) contribute to the development of a full and fair public hearing process.

Mission Plan for the Radioactive Waste Management Program

The Department of Energy is to be commended for the obviously substantial effort required to create and publish the Mission Plan. We also wish to commend the Congress for requiring, through the Act, that a plan be produced. This document, appended by a number of relevant reports, details the federal program to a considerable extent. We note that this latest version of the Mission Plan is a substantial improvement over earlier drafts. There is apparent considerably more effort devoted to program direction than ever was evident before. To its credit, the DOE has exposed more of its deliberations leading to its decision-making. Candor invites more intelligent critique by all serious reviewers. Examples of program improvements include demonstrated recognition by the DOE that the goal of the disposal program is the development of an integrated system for fuel handling and disposal, not merely the construction of a repository. Also evident is the development of a cost-consciousness which should spell the beginning of a cost-control mentality.

Two-thousand five-hundred comments were received from 100 commenters during the revision of the Mission Plan. It is important to note, however, that several subjects of the Mission Plan, while sometimes adequately covered, raise issues that at other times are not resolved. Therefore, the NARUC wishes to bring before you the following specific areas of concern:

1. Program Costs and Estimates
2. Program Management
3. U.S. Defense Wastes
4. Monitored Retrievable Storage System (MRS)

1. Program Costs and Estimates

Not reported in the Mission Plan, but acknowledged elsewhere by the DOE, is the fact that the present 1 mill fee even now appears inadequate to supply sufficient income. If true, present and past ratepayers are not and never will be assessed sufficiently to pay true disposal costs. This raises a dilemma, since the program is not being based on cost-effective decisionmaking and an increased fee cannot now be justified. Yet, the NARUC is also concerned that schedule delays and as yet unanticipated activities will raise program costs even higher than the present $25-35 billion figure, with sobering consequences for future ratepayers.

The NARUC is concerned with the DOE's use of a "mid-case" estimate (U.S. Energy Information Agency) of the amount of nuclear electric generation that constitutes the basis for its estimates for ultimate waste disposal. This "mid-case" estimate presumes a very substantial increase in nuclear plant construction over the present nuclear generation, including units now under construction. If a "no new orders" future occurs with regard to nuclear power plant construction, the DOE's estimates show program expenses will be reduced by $3 billion, but income would be reduced by $9 billion. Spent fuel inventory would be reduced below 100,000 metric tons of uranium (MTU). If extended burnup were included, the inventory might be reduced to 80-85,000 MTU as shown in a contractor's report[8]. This raises substantial questions about the need and cost implications for two repositories and on the planning basis for the entire program.

Estimated costs for a variety of program options are outlined in considerable detail (Mission Plan, Volume II, Chapter 15). As has consistently been the case, the cost analysis being used is not for the current program, but rather a previous one. The present cost data do not reflect the DOE decision to incorporate an MRS in the overall system. Although the cost of an MRS has been estimated, as the DOE states, the range of that estimate does not appear to coincide with earlier estimates made by the U.S. Congressional Budget Office. This problem apparently stems from the fact that the DOE makes program decisions before obtaining substantive cost data as input to decisionmaking.

Below is a table which shows the repeated failure of the DOE to utilize cost data in the decisionmaking process:

TABLE I
LAG OF NUCLEAR WASTE PROGRAM
COST ESTIMATES

Program Definition Document/Date	Program Cost Evaluation Document/Date
Early Draft Mission Plan, 12-83	Draft Mission Plan, 4-84
Draft Mission Plan, 4-84	Total System Life Cycle Cost Analysis, 1-85
Mission Plan, 6-85	Fee Assessment, 1-86 (Anticipated)

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[8] C.M. Heeb, et al, Reactor Specific Spent Fuel Discharge Projections: 1984 to 2020, Richland, WA, Battelle Pacific Northwest Laboratories, PNL-5396, April, 1984.

The NARUC is very concerned that cost data are not an integral part of the planning mechanism and that severe financial impacts could occur. Ratepayers, we believe, may not be well served by the present order of activity.

2. Nuclear Waste Program Management

A fully successful outcome of the nature desired by the NARUC is not necessarily guaranteed in today's and tomorrow's program. As with nuclear plant construction and operating programs, redirection, repetition, rework, repairs or redesign in the waste disposal program due to changes in approach and late regulatory decisions or political expediency can produce negative effects. Cost increases result not only from repeating the same job, but also because all parts of the program are then delayed. That time is money is nowhere more dramatically shown than in nuclear power plant construction. Loss of public confidence also flows from such delays; this result could be the most devastating impact on the nuclear waste program. The history of nuclear plant construction indicates that logical products of public upset are rounds of criticism, voluntary or involuntary regulatory response, added safety requirements, more delays and assuredly more costs. Careful, thoughtful planning, full and fair public hearings and excellent waste program management could enable us to avoid a repetition of historical nuclear power plant failures and omissions.

More specifically, let us now turn to aspects of nuclear waste program management of concern, as spelled out by DOE in the Mission Plan.

One troublesome area of program management that touches deeply on lessons learned from nuclear power plant construction is the meeting of established program deadlines. There have been numerous missed deadlines by the Office of

Civilian Radioactive Waste Management (OCRWM). Table II (pg. 13a) shows some of the most important deadlines that have been missed. These delays have been mentioned and discussed by many reviewers. For example the U.S. General Accounting Office (GAO), in its 1984 annual audit, chastises the DOE for not formally alerting the Congress in a timely way to several important missed deadlines. The Mission Plan does not lay out this problem since deadlines and compliance dates are not compared.

There are a variety of reasons, we are told, that deadlines, imposed by the Congress and some planned by the DOE have not been met. We acknowledge wholly unanticipated levels of public response, the uniqueness and complexity of certain tasks, and perhaps the unreality of deadlines embodied in the Act.

However, it appears that the failure to meet deadlines is expected to continue. The DOE now believes it will miss the site characterization and first repository recommendation to the Congress by four years; but it must be recognized that even this prediction is six years in prospect, hence subject to considerable reevaluation. Furthermore, the predicted date slipped nine months in the last 14 months.

The DOE, perhaps tenuously, still holds to the 1998 date for spent fuel acceptance. The DOE tells us success will require: NRC speed in approving licensing, minimal delay from what is a growing court agenda, and development among the public of extensive credibility in the program. However, these program time threats cannot be ignored. Viewed in historical context, they are very much the same story as happened repeatedly to federal efforts over the last 30 years to dispose of high-level waste. The NARUC believes that, considering no discussion is given in the Mission Plan of past experience or acknowledgement of the DOE's

TABLE II

MAJOR MANDATED DUE DATES
NUCLEAR WASTE POLICY ACT OF 1982

SECTION	ACTIVITY	DUE DATE			
		Req'd. by Act	Actual	Scheduled	Delay
112(a)	DOE issues general guidelines for the recommendation of sites for nuclear waste repositories.	7/7/83	12/6/84		17 mos.
121(a)	EPA adopts standards for the protection of the environment from off-site releases from repository.	1/7/84	Aug. 1985		19 mos.
303	DOE submits AMFM Panel report to Congress.	1/7/84	4/18/85		15 mos.
301(b)(1)	DOE provides draft Mission Plan to public.	4/7/84	5/2/84		1 mo.
301(b)(3)	DOE submits Mission Plan to Congress.	6/7/84	June 1985		12 mos.
112(b)(1)(B)	DOE recommends to President three sites for characterization for first repository.	1/1/85	---	Dec. 1985	11 mos.
8(b)	President evaluates disposing of defense waste in a commercial repository.	1/7/85	4/30/85		3 mos.
141(b)	DOE to submit final MRS proposal to Congress.	6/1/85	---	Jan. 1986	6 mos.
114(a)(2)(A)	President to submit recommendation for first repository site to Congress.	3/31/87	---	Mar. 1991	48 mos.
114(a)(2)(A)	President to submit recommendation for second repository site to Congress.	3/31/90	---	Mar. 1998	96 mos.
302(a)(5)(B)	DOE to begin to receive spent fuel.	1/31/98	---	1/31/98	0 mos.

missed deadlines, the statement ". . . the current organization and management system reflect the application of lessons learned from the history of the radioactive waste programs," (Mission Plan, Volume II, page 304) is not borne out by the DOE's program results.

As for public acceptance, the DOE, much to its credit, has recognized the need to communicate openly, frequently and successfully with the public. This is a formidable and challenging necessity. The DOE elevated the function to the highest management levels in its organization by creating an Office of Policy, Integration and Outreach. Some public response has been predictably negative. Results seem to us, however, to suggest that the DOE's good intentions simply have not borne substantial fruit in that not much widespread public acceptance has been achieved. It appears that far greater and more negative response was received than anticipated by the DOE. The two best examples are responses to the site selection guidelines and the subsequent responses to the draft Environmental Assessments. The NARUC believes that the Congress should be very concerned with the disparity between the DOE effort at communication and the lack of public response in the form of understanding and acceptance.

As for the DOE management performance, the NARUC sees signs that all may not be well. The present leadership is perhaps the most extensive and overall competent management of the U.S. high-level waste program ever assembled and we recognize that its personnel have been at work a rather short time. However, signs of difficulty are now evident. While somewhat better than that in the draft Mission Plan, the revised chapter on management (Mission Plan, Volume I, Chapter 5) is not insightful in explaining operations and control and, in itself, does not contribute very much confidence to program perceptions. For example, the DOE states the primary monitoring tool to be utilized is the Project Management System. While it may or may not be helpful (too little evidence is given in the Mission Plan), it is not yet developed.

As another example, the DOE alludes (Mission Plan, Chapter 5, page 160) to peer group input to management, input from states and from ongoing or to-be-organized peer committees. The NARUC believes that those states deeply concerned as possible repository sites simply are not in business to advise the DOE on its management improvement. Yet, there are a large number of organizations that, through their own demonstrated conduct of difficult technical programs or because of their management consultation expertise, could assist the DOE and the Congress in management assessment. The NARUC knows of peer committees that provide to the DOE important advice on technical issues. We are not, however, aware of management review advisory bodies or peer groups.

It appears the DOE has largely dismissed the findings of the Advisory Panel on Alternatives to Managing and Financing Radioactive Waste Facilities (AMFM Panel), the only such committee on management of which the NARUC has been aware. The DOE explicitly states in the Mission Plan that it does not include the AMFM Panel's advice.

As another example, the GAO has made a series of findings and recommendations which we believe are very important. Among them is the need for extensive and consistent audit of program contractors and subcontractors, recognizing that about 85% of all nuclear waste expenditures is by these parties and that the GAO finds that systematic and uniform audit has not occurred. We are told by the GAO that the DOE has seen fit to largely resist its recommendations.

The NARUC is concerned for these reasons, that the DOE program management, certainly not without a salutary sense of mission and an aggressive intent to succeed at this very formidable task, is attempting to resist a great deal of outside criticism. Granted, some advice is distractive and even intentionally counterproductive, but some of it appears to us to be helpful and usable.

The NARUC was pleased to note (Mission Plan, Volume I, page 156) that "OCRWM has contracted with a certified public accounting firm for an independent annual financial audit to reassure the utilities, the public utility commissioners, and the electricity consumers who ultimately pay most of the fees, that generally accepted accounting principles are observed and that the financial statements and presentations of the OCRWM fairly and accurately present the financial conditions and operations of the Nuclear Waste Fund." The NARUC understands that the DOE has included this review, in part, to place the program on a "business-like" basis. Such moves to strengthen the program also bring credibility to it.

3. Disposal and Funding of U.S. Defense Wastes

The Mission Plan makes limited reference to inclusion of defense wastes in the repositories. This is an issue which must be adequately addressed in planning. In the inclusion of defense waste in repository design, the physical constituency of the waste --- volume, heat rate and chemical make-up --- must not be overlooked. These variables will substantially affect the cost of disposal in the repositories. The Mission Plan makes minor references to the differences between defense waste and civilian waste, but does not thoroughly address the effects these differences will have nor give an indication of ensuing cost impacts. No obvious formula for defense waste disposal cost burden is apparent.

The Mission Plan, as well as previous documents issued by the DOE, have never addressed the issue of defense wastes which are not readily retrievable. This waste has leaked from single shelled tanks located at the Hanford Reservation in the state of Washington. There are currently 149 single shelled tanks, 20 of which are known leakers. There have been serious spills from these tanks ---one instance included a leak of 450,000 gallons over an eight-week period. The DOE currently has plans to pack the tanks in such a manner that it feels sufficiently protects the public. However, the wastes are not scheduled for inclusion in the repository despite the Nuclear Waste Policy Act requirement that all high-level waste be deposited there. The DOE apparently must develop planning for such contingencies. Clearly defense disposal costs will be affected by decisions not yet made.

Negotiations between two branches of the DOE are now being held _in camera_ to determine an equitable payment to the Nuclear Waste Fund. The NARUC is concerned with the conflict of interest in the Division of Defense Programs within the DOE negotiating with the DOE's own OCRWM. The NARUC is concerned that the interests of ratepayers may not be adequately protected in such negotiations. In fact, the DOE budget could benefit from an agreement that allows the disposal of defense waste to be subsidized by ratepayers.

4. The Monitored Retrievable Storage Facility Proposal

The Congress of the United States has reserved to itself the decision of whether to construct at this time an interim central spent fuel storage unit, referred to in the Act as a Monitored Retrievable Storage Facility (MRS). _The NARUC neither supports nor opposes a decision to build an MRS._ We have neither the technical nor the program information necessary to make such a judgment. We are, however, concerned that the Congress obtain the necessary information on which to come to and maintain a reasonable consensus. Our conclusions are as follows:

(1) The MRS has been a controversial issue for years and the impending decision no doubt will be a hard-fought one. Inadequate exploration of the advantages and disadvantages of the option could only confuse the issue, delay the Congress's decision, and heighten public apprehension and anxiety to a point which would induce massive opposition to either the proposed facility or to its proposed site despite the advantages that an MRS could be shown to have.

(2) A decision to build the MRS will surely negate some other system decisions, require new conclusions, and have cost, fuel acceptance schedule and safety ramifications that will reach throughout the waste disposal program.

(3) The MRS is an element of a disposal system, the total integration of which the DOE has committed to study. Obvious DOE support and enthusiasm for the MRS option must not diminish the independence, thoroughness, dispassionateness or comprehensiveness to be exerted by the DOE.

(4) The MRS, in part, may be felt to be needed to overcome storage problems brought on by past federal failures and delays in the current program. However, the MRS must not be utilized as a final answer to spent fuel disposal. It must be justified as a cost-effective addition to the overall system.

(5) In the integrated system analysis, it must be recognized that ratepayer financial responsibility encompasses not only the federal portion of the disposal process, but the at-reactor storage portion as well. Therefore, analyses must include evaluation of both portions in determining overall disposal costs.

(6) A decision to build an MRS will add significantly to the burden on the DOE management and staff and should be planned for well in advance. There should be no dissipation of DOE or contractor strength in pursuing the MRS.

(7) There should be no deliberate or inadvertent abandonment of the task of final disposal in the repository.

The NARUC's Opinion on the Overall DOE HLNW Disposal Program

The NARUC's review of and conclusions on the DOE program are still under development and are expected to so continue in the foreseeable future. The NARUC finds it important to release these present observations of the program and its conduct in the hopes of focusing attention on any necessary corrective response. We conclude that it is too early to decide if the federal nuclear waste disposal program will be successful, i.e., that it will reach the goal of safe and timely disposal of all the nation's spent reactor fuel and defense wastes. We also note that the federal disposal effort is more than 30-years old, the present program is more than two-years old, and the DOE currently is expending funds at the rate of about $500 million per year.

The NARUC finds:

(1) Program cost estimates are not released with program revisions because they are not developed; thus cost simply is not a decisional factor in the DOE program planning.

(2) Many deadlines, both those mandated by the Nuclear Waste Policy Act and those announced as internal decisions of the DOE, have been missed. Program delays are evident and, recognizing that the present disposal program is now some two years old (with 20 years yet to be completed), the threat of a substantially longer disposal project appears possible.

(3) The DOE has made a commendable effort to engage the public and state governments in productive encounter, but the response has not been favorable. There remains a need for effective public education and acceptance of the DOE response to public and state and local government concerns. Full and fair public hearings are a must.

(4) Overall program management remains of concern. The DOE's field office approach has been criticized; the very large percentage of total expenditures by contractors raises questions of programmatic and fiscal control; a program-wide planning and control system still is not in place.

(5) We have found no evidence that the very large departmental program expenditures, especially in view of the fact that construction has not yet commenced, have been independently thoroughly reviewed. The GAO's finding that periodic and uniform contractor audit has not occurred is disturbing.

(6) We have a sense that the DOE, when anticipating even larger-than-announced future program increases, may tend to look to fee increases as solutions. We must emphasize that there is a limit, both considering equity and ability to pay, to funding by ratepayers for nuclear waste disposal.

(7) There is a crucial need for overall acceptance by DOE observers, critics and correspondents of the Mission Plan as a vehicle that delivers a conservative, predictable and successful program that will conclude on a reasonably certain schedule, one that utilities can confidently employ in their planning.

(8) The NARUC is troubled by the prospect of discussion and decision, totally internal to the DOE, of what are to be equitable payments to the Nuclear Waste Fund for defense waste disposal. The Fund must soon receive payment for the fair share of embedded costs and for the time value of money not contributed to date. The defense payments decision by the DOE must receive adequate public review and all needed revisions must be incorporated in the final financial assessment.

(9) A decades-long discourse has ensued over the management structure of the waste disposal program. The Congress recognized the importance of the issue in the Nuclear Waste Policy Act and the DOE formed the Advisory Panel on Alternative Means of Financing and Managing Radioactive Waste Facilities to review this and related matters. When a thoughtful report was received, the Department dismissed or deflected most of the recommendations it contained. The NARUC is troubled by this response. While we are not ready to endorse the AMFM Panel recommendations per se, we are concerned about the DOE's response. This conclusion is not designed to embarrass the DOE, but rather to underscore the NARUC's view of the extreme importance of the disposal program to the public safety and to a sense of program financial well-being.

(10) Finally, the NARUC is concerned with a need for intense attention, review and audit both internally by the DOE

> and externally by the Congress and whoever else it designates and others of the issues we have raised, and those others brought forward by intelligent and constructive program critics. The root strengths, problems and prospects for this latest national program must be determined and the necessary corrections made promptly.

Conclusion

The NARUC appreciates the opportunity to address the Congress on this issue of such importance to nuclear electric ratepayers across the country. It is our duty and our pleasure to attempt to contribute to the evaluation of this difficult program. It is our intention, as previously stated, to use our expertise to contribute to the strengthening of the program so as to lead to its success, an objective that should be on everyone's agenda. However, the NARUC cannot in the alternative sit by and wait for the manifestly easy temporary solution, the raising of the Nuclear Waste Fund fee.

Senator HECHT. Mr. Delbert Devin.

STATEMENT OF DELBERT DEVIN, PRESIDENT, STAND, INC., [SERIOUS TEXANS AGAINST NUCLEAR DUMPING], SWISHER COUNTY, TX

Mr. DEVIN. Thank you, Mr. Chairman. I appreciate the opportunity to be here. My name is Delbert Devin. I'm from Swisher County, TX, some 50 miles south of Amarillo.

I've been a farmer and rancher there all my life, except for the time spent in service and teaching in Texas Tech University in Lubbock. I was born on the land my father settled in the early 1900's. Today, I farm that land along with my two sons.

Today I speak for STAND [Serious Texans Against Nuclear Dumping], which is a Swisher County based organization. I also speak for POWER which is a Deaf Smith-based organization, People Opposed to Waste Energy Repositories, as well as STAND, Inc. of Amarillo.

Today I also represent all six citizens groups from all of the first five States, plus the State of Minnesota. Recently those States met in Reno, NV. At that time we established a statement of principles that is part of my written testimony, which I would respectfully request be submitted——

Senator HECHT. Your full statement will be part of the record.

Mr. DEVIN. Thank you, sir.

It was quite surprising to me as I met these people, because we all have our own parochial concerns. We've been accused of having a backyard syndrome, and yet I found that while in Texas I was not surprised that the DOE had no credibility, I found with the citizens groups in the other States, the same thing is true, as you've heard somewhat today.

We found also we could agree on very many things. Now, in Texas, if I might elaborate a little bit, because my experiences do come from Texas, not from the other States, there have been misrepresentations and half-truths in the DOE program. With all due respect to Mr. Rusche, this was prior to him coming on board.

We've also had a charade out of our public information and mandated hearings. We spend our time, and many of these people there are farmers. I don't have to tell you about the farm situation. I don't have to tell you about the farm economy. I don't have to tell you about the fact that as the DOE came in, our land prices plummeted to 50 percent of what they were prior to their coming.

But these people spent time to come and worked very hard to present facts that they know are correct. And yet time and time and time again, we've been alluded to the fact that we were not experts. I believe the experts are the people who live there.

And so far as agriculture is concerned, I think they are the ones that should be listened to, particularly in the area of socioeconomic things.

In the statement of principles, we call again for a halt to the present siting process and a technically based, sound, nationwide screening. It seems to me like that the sites that were chosen took very little interest in the proximity to the crude waste. Why was the Salina Basin in Ohio, Pennsylvania, New York and Michigan dropped from consideration in 1979?

Why, given the fact that the only testing that was done—and I have been in your Climax Mine in Nevada—the only thing that's been done is in granite. Also, I know the United States Government has cooperated with granite experiments in Sweden. Why was granite dropped from consideration in the first round?

It's rather interesting to me in the preliminary site characterization, a site was chosen in Swisher County in the Panhandle of Texas. Underlying that area is the largest aquifer in the United States, the Ogallala. Eight States have part in the country. It's irrigation and drinking water for the entire people.

Also in this county is a county that is third in the Nation in the dollars produced in agricultural products. They also feed some 500,000 cattle yearly. Frito-Lay, Holly Sugar, a nationwide natural food product, that sends products all over the world is based in this area. And in the site specific itself, the 9 square miles, is a unique seed farm, Richardson Seed Farm. It is unique in the fact that it takes breeder seed and expands it, and last year in 1984 were responsible for some 7 million acres of wheat with an estimated value of $1 billion.

It seems to me like we must protect our groundwater, we must protect our food chain from possible contamination. Even though it might be remote, that possibility is of grave concern.

The DOE said in the draft EA that Swisher County and the site had only nine wells. I happen to live just across the road from the site. I also have land in the site. There are in excess of 40 wells in that 9-square-mile site. The DOE also included in there a seismic line—am I running overtime?

Senator HECHT. I'll give you 1 more minute. You're over, but I'll just give you 1 more minute to summarize.

Mr. DEVIN. I'll wrap this up real quick, then.

They also ran this seismic line, and it was done by a lot of misrepresentation. When the land man called me he said, we want to run a line by your place. At that time a great deal of oil activity was taking place. I questioned him. I said, are you doing this for the Department of Energy? No. The only thing we have in common with the Department of Energy, if we find oil, they'll get it. And they mentioned two companies and a broker.

I asked him again, and finally he admitted it was the Department of Energy. This type of misrepresentation has led to the lack of public credibility. I think we only have one thing we must do. We must go back to the real necessity of this. We must find the best site and the best location of all things considered, and the best medium, to solve this problem that demands from the Congress and from every American that this job be done adequately. And I thank you again, sir.

Senator HECHT. Thank you.

[The prepared statement of Mr. Devin follows:]

BEFORE THE

SENATE COMMITTEE ON ENERGY AND NATURAL RESOURCES

SUBCOMMITTEE ON ENERGY RESEARCH AND DEVELOPMENT

STATEMENT OF DELBERT DEVIN

REGARDING DOE'S NUCLEAR WASTE MANAGEMENT PROGRAM

September 12, 1985

Good morning, Mr. Chairman and members of the subcommittee. Thank you for this opportunity to testify.

My name is Delbert Devin. I am president of STAND, Inc. (Serious Texans Against Nuclear Dumping), a citizens group in Swisher County, Texas. I have been a farmer all my life except for my service as an Air Force pilot in the Far East during World War II. Some of my farmland is within the DOE's designated site in Swisher County.

I am here today representing not only STAND, but also the concerns of citizens from Washington, Nevada, Utah, Mississippi, and Texas, the five states that DOE has selected for the first nuclear waste repository. My testimony includes a Statement of Principles adopted by leaders of citizen groups from these designated repository states and my own experiences which support the statement and show the DOE waste program in practice and as described in the Mission Plan to be inadequate. I am also submitting a more detailed written statement regarding inadequacies of the Mission Plan by Don Hancock of Southwest Research and Information Center, who is Technical Advisor to STAND and POWER, Inc. (People Opposed to Wasted Energy Repositories), a Deaf Smith County, Texas citizens group and provides information to citizen groups in all of the repository states. Mr. Hancock is also present here today and would be happy to respond to any questions regarding his statement.

In brief summary, my position is that our responsibility to present and future generations requires a careful, technologically sound solution to the nuclear waste problem. Hasty, politically motivated decisions by the DOE will never solve a problem of this gravity - we will not accept anything less than the best possible solution.

Introduction

Citizen groups from those states are aware of the importance of finding a safe, permanent solution for nuclear waste disposal. From our personal experiences, we know that Congress' finding in the Nuclear Waste Policy Act (NWPA) is true — "Federal efforts during the past 30 years to devise a permanent solution to the problems of civilian radioactive waste disposal have not been adequate." (Section 111(a)(3))

Unfortunately, from our experiences citizens from all first round states can also affirm that the passage of the Act has not significantly changed the efforts of the Department of Energy (DOE), the federal agency charged with implementing a waste disposal program. The DOE program continues to sacrifice technical excellence and public acceptability to political considerations and expediency. Citizen groups and state government officials have been expressing these concerns to DOE for years with little result in changing how that agency operates the program. Consequently, we have no confidence in DOE's technical ability, and do not believe that the agency will respond to legitimate public concerns. Thus, we believe that the Congress must require changes from DOE in order for a safe nuclear waste disposal program to be implemented. We welcome this hearing and further congressional oversight of the waste program is vital to the interests of all citizens, not only those from Texas, Mississippi, Utah, Nevada, and Washington.

The specific examples I give are from Texas only because I can personally testify to them, not because they are unique to Texas. On the contrary, from my involvement in the nuclear waste issue over the past 4 years, I am convinced that the DOE program is similarly unacceptable in the other states.

Statement of Principles

The Statement of Principles, which is attached to my testimony, was developed at a conference held in Nevada on July 26-28 attended by leaders of citizen groups from Mississippi, Washington, Nevada, Utah, Texas, and Minnesota as well as representatives of two national environmental organizations. The meeting developed a consensus that the problems faced by citizens were similar and that the solutions necessary to change DOE's program required a unified response.

I wish to highlight a couple of parts of the Statement which are particularly relevant to fundamental aspects of the DOE program described in the Mission Plan.

The Statement says that DOE's "repository site selection process has been and continue to be based on political considerations and expediency rather than sound technical, socioeconomic and environmental considerations."

> Solution--site investigations at the nine potentially identified sites should be suspended until a nationwide site screening based on objective and technically conservative site selection guidelines is undertaken. "Until this occurs, there is no rational basis for the identification of the best possible sites."

A basic problem is that citizens and DOE have fundamentally different goals for the repository program. While citizens believe that a technically sound program requires identification and investigation of the best possible sites, DOE's goals enumerated in the Mission Plan (page 7) do not include such identification or selection of the best possible sites. Rather, DOE wishes to pursue "waste acceptance for disposal by January 31, 1998." This goal is totally unachievable if scientific investigation is conducted and if the requirements of the NWPA and state laws are followed.

The 1998 date is apparently the most important part of the DOE program, as delay in that date is the reason that DOE feels it cannot look beyond the nine sites that were identified in the draft Environmental Assessments released on December 20, 1984. We certainly understand that conducting a national site screening program for a few years, undertaking adequate site characterization at the three best sites, and subjecting those sites to rigorous public, state, presidential, congressional, and NRC review could not be accomplished by 1998. However, it is also clear that the current program cannot succeed if it is required to follow the mandates of the Act.

One example of why I believe that DOE isn't interested in finding the best site is that in terms of salt thickness and proximity to where commercial waste is produced and stored, sites in the Salina Basin in Ohio, Michigan, New York, and Pennsylvania are much more suitable than the Texas sites. DOE itself has found no technical reason to disqualify the Salina Basin. However, DOE decided in 1979 that "studies have been suspended and no further DOE/ONWI exploration activities will be initiated until appropriate consultation and concurrence with the Salina Basin states has occurred." (ONWI, 1979, p. iii) Even though site selection in 1979 had progressed farthest in the Salina Basin, DOE made a political decision to give those states a de facto veto over a site.

It is particularly insulting to me that citizen groups are accused of having a "Not in my back yard" syndrome, when DOE's salt repository program office in Columbus, Ohio seems totally unwilling to look in its own back yard!

Furthermore, I have been at the Climax site on the Nevada Test Site, so I know that granite is the only rock type that has been used for deep underground testing of spent fuel in the U.S. I am also aware that the Stripa granite site in Sweden has been used extensively for nuclear waste testing.

Given this body of research information, it seems particularly inappropriate to exclude granite sites from consideration for the first repository, as DOE has done.

Another issue briefly addressed by the Statement of Principles is Consultation and Cooperation Agreements. I am aware that the chairman has been especially interested in and supportive of C & C agreements. It will be very difficult to develop C & C agreements, as is already obvious. Citizens and state government officials do not trust DOE.

When people in Texas were contacted about rights of way for seismic lines, the contractor field men denied they were working for the DOE and said that several oil companies were interested in the information. The men later admitted that they were following instructions in what they told people.

In Texas, the large Hispanic population in Swisher and Deaf Smith counties (56 percent of the school children in Hereford are Hispanic) have been asking for information on the waste program in Spanish for over two years, including making oral requests and signing petitions submitted at DOE's 1983 hearings. Yet DOE continues to say that they haven't received such requests!

Thus, DOE record is such that we do not believe that DOE would keep its agreements, just as it has not kept its agreement with the Nuclear Regulatory Commission that the preliminary determination of site suitability required by section 114(f) of the Nuclear Waste Policy Act must be made after site characterization.

Given this background, it will be very difficult to negotiate C & C agreements. In my part of Texas, we believe that people ought to keep their word, but DOE has not proved itself to be trustworthy.

You may say how can I, a farmer, not a scientist, be so sure that the sites under consideration, including the Texas ones aren't safe. Let me give you a few facts to support my position.

1) DOE has no site specific information on either the Swisher or Deaf Smith County sites. While I know this statement to be true, you don't have to take my word, just look at page 3-1 of the draft environmental assessments for those two sites—DOE admits it!

2) DOE is not expert in evaluating fundamental issues related to the Texas sites. The major long-term health and safety problem from repository construction, operation, and permanent disposal is contamination of the water supply -- the Ogallala aquifer which is the nation's largest aquifer underlying eight states, which provides drinking water for people and irrigation water for land which feeds millions of people. The experts on the Ogallala and Santa Rosa aquifers in Texas are the Texas Water Resources Department and High Plains Underground Water District. These experts believe that contamination of the Ogallala is quite possible. While DOE would like you to believe that they understand these issues, their credibility is very questionable when in their draft environmental assessment they undercount by several times the number of irrigation wells at the sites, and do not even identify the largest well in the area of the Deaf Smith site (the Richardson Santa Rosa well).

Another fundamental issue regarding the Texas sites relates to the agricultural importance of those areas. Deaf Smith County annually is one of the top ten agricultural counties in the nation. Swisher County is also very productive and is smaller in land area, but has an even higher percentage of prime farmland. More than 85 percent of the nation's grain sorghum comes from the Texas Panhandle. The Richardson Seed Company, which would be destroyed if the Deaf Smith site is chosen, is the only operation of its kind in the country. The Texas Agriculture Experiment Station (TAES) winter wheat varieties maintained only at Richardson's in 1984 alone accounted for more than 7 million acres of wheat production valued at over $1 billion. Important agricultural companies such as Frito Lay, Holly Sugar, and Arrowhead Mills in Deaf Smith County have said that they could not maintain their operations if the repository is developed in that county. Rather than accepting information from the real experts on agriculture in this area, DOE says that it has "no evidence" that statements about the impacts on agriculture are true.

As a further insult, DOE refuses to even acknowledge that its investigations in Swisher and Deaf Smith counties have already cost landowners like me thousands of dollars in devaluing our life savings—our land. This is devaluation above and beyond that resulting from agricultural problems.

People in Texas are the experts on these hydrology and agricultural issues and others, but DOE wants to maintain its image of experts by producing documents with many pages but little accuracy, such as the draft environmental assessments.

In conclusion, I do not believe that the nuclear waste program that DOE is conducting will result in safe permanent repository sites. People with direct experience with DOE in other states have developed the same attitude. The DOE program is clearly technically flawed. Members of STAND and POWER will continue fighting to safeguard our land and water and to require that the federal government's waste management program be technically sound and seek the best possible sites. I am confident that citizen groups in other first and second round states will act similarly.

We would all request that Congress seriously consider our concerns and require fundamental changes in the waste program.

Thank you again for allowing me to testify.

STATEMENT OF PRINCIPLES

I. CURRENT DEPARTMENT OF ENERGY REPOSITORY PROGRAM

The United States Department of Energy DOE repository site selection process has been and continues to be based on political considerations and expediency rather than sound technical, socio-economic and environmental considerations.

In order to expedite the program to meet arbitrary deadlines, scientific rigor and public credibility in the site selection process have been sacrificed.

DOE's undue haste has resulted in the arbitrary exclusion of potentially suitable geologic media from consideration and in the premature identification of nine first-repository sites.

RECOMMENDATIONS

1. Dates in the Nuclear Waste Policy Act should be viewed as flexible, not as hard and fast "deadlines" to be met at the expense of public health and a technicaly defensible repository site selection program.

2. We oppose any move by DOE to amend its contracts with the nuclear utilities in order to obligate the federal government to meet a 1998 "deadline" for waste acceptance.

3. In order to ensure an equitable site selection process that is politically and scientifically credible, no site selection should occur until the federal government has first undertaken a nationwide screening of all suitable geologic media. Furthermore, site screening must be based on objective and technically conservative site selection guidelines. Until this occurs, there is no rational basis for the identification of the best possible sites.

4. The investigation of sites currently under consideration and the environmental assessment process as it applies to those nine sites should be suspended immediately.

II.. WASTE STORAGE AND TRANSPORTATION

We oppose federal centralized storage of nuclear waste in Monitored Retrievable Storage facilities.

We support on-site, dry cask storage of waste at the source of generation in order to allow adequate time for the development of safe nuclear waste disposal facilities, eliminate unnecessary shipments of waste across our nation's highways and railways, and eliminate the risks posed by the siting of additional federal interim storage facilities.

Because of the potential for catastrophic accidents posed by waste transportation, we support federal legislation such as that introduced by Senator Hart (s.1162) which is intended to provide states with the financial and technical assistance needed to protect public health and the environment in the event of transportation accidents. We support Congressional initiatives which would force DOE to fully consider and mitigate transportation impacts on corridor states.

III. PRICE-ANDERSON ACT

We oppose the limits on liability for damages caused by nuclear accidents established in the Price-Anderson Act.

We support unlimited liability coverage for the costs of damages resulting from military and civilian nuclear programs, including all aspects of nuclear waste management such as site characterization, transportation, repository operation, and decommissioning.

If an accident is caused by contractor negligence, the federal government should compensate all losses and then seek full recovery from the contractor in order to help assure high-quality, high integrity work.

IV. HEALTH STUDIES

We oppose DOE control of radiological health studies. DOE has an abyssmal record both in studying the effects of radiation on human health, in handling nuclear materials, as well as an inherent conflict of interest due to its mandate to promote nuclear development and protect public health.

We support efforts such as the Glenn-Wirth bill (H.R.1287, S.525) which would transfer authority for radiation health studies and research from DOE to the U.S. Department of Health and Human Services.

V. COMINGLING OF MILITARY AND CIVILIAN WASTE

We oppose the shroud of secrecy surrounding military waste management. In keeping with the presidential decision approving comingling of military wastes in commercial repositories, we support full disclosure to the states and public of all impacts of military waste transportation, storage and disposal.

VI. PRELIMINARY DETERMINATION OF SITE SUITABILITY

We oppose DOE's contention that it can determine that a repository site is suitable prior to site characterization.because it increases the likelihood that technically inadequate sites will be selected. We support full and adequate characterization of the three best sites to support the "preliminary determination of site suitability" specified in Section 114 (f) of the Nuclear Waste Policy Act.

VII. CONSULTATION AND COOPERATION AGREEMENTS

We oppose the DOE's consistent failure to respond to public concerns regarding the nuclear waste decision making process.

We support full public participation in determining the need for State/DOE Consultation and Cooperation agreements and the issues to be included in any such agreement.

VIII. STATE AND PEER REVIEW

We oppose the obstruction of independent State and Indian tribe review of the nuclear waste program and their ability to conduct confirmatory research as illustrated most clearly by DOE's refusal to fund Nevada's geologic testing program.

We support funding for independent and credible peer review of the entire nuclear waste program open to full participation by all affected and/or interested parties.

IX. PUBLIC INVOLVEMENT

We oppose the DOE's failure to effectively involve the public in nuclear waste decision-making.

We support a decision-making process that encourages full involvement by all affected parties. DOE must adequately fund state and citizen group public information programs and adopt hearing procedures whi~~x~~ch promote meaningful public participation.

X. ECONOMICS

The cost of nuclear waste disposal will be astronomical--up to $114 billion, according to current General Accounting Office estimates. Even this figure is substantially low because the technology for waste disposal is not yet proven, the amount of waste is rapidly increasing, and the enormous volumes from dismantling nuclear plants are not included in this cost estimate.

Despite DOE's unsupported claim that a repository will be economically beneficial, a repository could destroy the existing local and regional economies and quality of life. For example, Rep. Marilyn Lloyd (D-Oak Ridge, TN), a leading nuclear advocate, stated in a July 18, 1985 press release: "A nuclear waste dump, in my opinion, would be a hinderance in promoting the area as a good place to live and do business."

Safe nuclear waste disposal will ultimately costs hundreds of billions of dollars, resulting in every American paying hundreds of dollars in higher taxes and increased utility bills.

XI. NUCLEAR WASTE PRODUCTION

It is fundamentally irresponsible for the federal government and private industry to promote the continued production of nuclear wastes in the absence of safe and proven waste disposal technologies.

XII. STATE UNITY

We encourage all states and citizens to work cooperatively to develop safe and equitable nuclear waste disposal programs.

We oppose any action by federal, state, or local governments, organizations or individuals which promote the siting of dangerous nuclear waste facilities in any state.

The magnitude and gravity of this problem require all Americans to work together for an ultimate and safe solution.

ENDORSERS

Stan Flint (Mississippi)
Fifth Congressional District Representative on the Mississippi Nuclear Waste Policy Council
Citizens Against Nuclear Disposal

J.R. Wilkinson (Washington)
Hanford Education Action League*

Tonya Kleuskens (Texas)
People Opposed to Wasted Energy Repositories

Ann McConnell (California)

Caroline Petti (Washington, D.C.)
Environmental Policy Institute

Don Hancock (New Mexico)
Southwest Research and Information Center

Delbert Devin, Betty Devin (Texas)
Serious Texans Against Nuclear Dumping

Barbara Johnson (Minnesota)
Radioactive Waste Project, Minesota Public Interest Research Foundation
Member Citizens Advisory Committee to the MN High Level Waste Task Force*

William Rosse, Sr. (Nevada)
Yomba Shoshone Tribe*

Steve Erickson (Utah)
Don't Waste Utah Campaign*
Western Solidarity*

Bill Vincent (Nevada)
Citizen Alert

Bob Fulkerson (Nevada)
Citizen Alert

Judy Treichel (Nevada)
Citizen Alert

* Organizations listed for identification purposes only.

Senator HECHT. Before the next speaker, I'd just like to say she's from my home county, Clark County in Las Vegas, and certainly one of the most beloved politicians in that area. Her family has contributed so much to the growth of southern Nevada. Thalia, you've been here twice and I've been chairing each committee hearing you're at, so I guess I'm on the right committees as far as you're concerned; right?

Ms. DONDERO. You're right.

Senator HECHT. Thalia Dondero, commissioner, Clark County.

STATEMENT OF THALIA M. DONDERO, CHAIRMAN, BOARD OF COUNTY COMMISSIONERS, LAS VEGAS, NV

Ms. DONDERO. It's very nice to be here, and for the record my name is Thalia Dondero. I'm chairman of Clark County Board of Commissioners, which encompasses the incorporated cities of Las Vegas, North Las Vegas, Henderson, Boulder City, and Mesquite for about 8,000 square miles. And I would like to thank you very much for the opportunity to be here on behalf of those communities in Clark County Commission.

My comments will be brief but will convey the concerns of a community that would be greatly affected by the potential Yucca Mountain Repository.

Senator HECHT. Your full statement will be a matter of the record.

Ms. DONDERO. And the mission plan, as we understand the document, is to provide a blueprint for the implementation of the repository program objectives. The major concern to Clark County and other local communities in Nevada, however, is the lack of emphasis placed on providing local government with a major role in the Nuclear Waste Program.

In Clark County's comments on the draft mission plan submitted this earlier this year, we noted it was short-sighted on the part of Federal Government not to have local governments more actively involved in all phases of the program. And I'd like to go on to state that I wanted to especially touch on some areas that were of great concern to us, which is transportation.

And I would like to briefly describe that role to you and I don't need to tell you that the population is around 600,000 and it's to be approximately 1 million by the time the waste shipments come in 1998. We are approximately 60 miles from the proposed Yucca Mountain site. And we do have some exhibits, but I don't need to explain to you that Interstate 15, U.S. Routes 93 and 95 and the Union Pacific Railroad Line all are potential routes of transportation of high-level radioactive material, and all directly bisect the Las Vegas metropolitan area.

This means that the metropolitan Clark County will conceivably be the recipient of thousands of shipments of radioactive material over the 20-year timeframe of the program. And you can see that this will impact the community and the urban area, and also the dominant industry of Nevada which is tourism.

And I'd like to go on to say that of major concern, of course, is the transportation that would take this across the dam. All of the eastern routes that would converge in Las Vegas would go across that dam. And I think that there's a great concern to all of us right here, as well as the surrounding States, because if there was ever an accident because, the roads are winding that go in there, it's a national tourism attraction to the United States and to many of foreign countries, but I think that it's a grave concern that there should be other routes that should be established to go to the Yucca Mountain site.

And I think that local government is the best place for these to be considered and to be discussed, and our role in that discussion has been bypassed and we would like to have an opportunity to have more input. It seems as though the Federal Government is operating with hundred dollar bills and we get quarters, and you just can't operate that way.

And so I'd like to state also that the liability concerning us is great. If there was an accident, we think that the Federal Government should look at that, the liability that will probably be coming along with the Price-Anderson Act, and I guess that's up for renewal in 1987. But we feel that there should be no limits on liability specified. All types of accidents should be covered, and that the defense-generated waste should be included in the liability provisions.

And I want to thank you and hopefully that we, along with the State, could be more involved in the planning of the Yucca Mountain site.

Senator HECHT. Thank you very much, Commissioner.

[The prepared statement of Ms. Dondero follows:]

TESTIMONY OF THALIA M. DONDERO, CHAIRMAN
CLARK COUNTY BOARD OF COMMISSIONERS
CLARK COUNTY, NEVADA
AT THE SENATE ENERGY RESEARCH AND DEVELOPMENT SUBCOMMITTEE,
COMMITTEE ON ENERGY AND NATURAL RESOURCES
SEPTEMBER 12, 1985

MY NAME IS THALIA DONDERO. I AM CHAIRMAN OF THE BOARD OF COUNTY COMMISSIONERS IN CLARK COUNTY, NEVADA, WHICH ENCOMPASSES THE INCORPORATED CITIES OF LAS VEGAS, NORTH LAS VEGAS, HENDERSON, BOULDER CITY AND MESQUITE. I WOULD LIKE TO THANK YOU VERY MUCH FOR THE OPPORTUNITY TO SPEAK BEFORE THE SUBCOMMITTEE AND TO REPRESENT THE VIEWS OF THE CLARK COUNTY COMMISSION ON THE MISSION PLAN FOR THE CIVILIAN RADIOACTIVE WASTE MANAGEMENT PROGRAM. MY ORAL COMMENTS WILL BE RELATIVELY BRIEF BUT WILL CONVEY THE CONCERNS OF A COMMUNITY THAT WOULD BE GREATLY AFFECTED BY THE POTENTIAL YUCCA MOUNTAIN REPOSITORY.

BEFORE I BEGIN MY TESTIMONY, I WOULD LIKE TO COMMENT ON RECENT RECOMMENDATIONS BY THE DEPARTMENT OF ENERGY THAT THE YUCCA MOUNTAIN, HANFORD AND DEAF SMITH COUNTY, TEXAS SITES BE DECLARED AS SUITABLE PRIOR TO DETAILED SITE CHARACTERIZATION. THE REASON CITED WAS THAT THE 1998 TIME FRAME ESTABLISHED BY CONGRESS MAY NOT BE MET IF THE SITE SUITABILITY PROCESS IS CARRIED TO ITS CONCLUSION. WHAT IS IGNORED IS THE FACT THAT CONGRESS APPROVED THE NUCLEAR WASTE POLICY ACT (NWPA) TO PROVIDE A PROCESS TO ENABLE THE BEST POSSIBLE REPOSITORY SITE TO BE SELECTED. THE PROCESS IS, THEREFORE, MORE IMPORTANT THAN THE TIME FRAME. THE RECENT STATEMENTS ALSO CONFIRM WHAT MANY NEVADANS HAVE BEEN THINKING; THAT IS, THE PROCEDURE FOR SITE SELECTION WILL BE MORE POLITICAL THAN TECHNICAL. NEVADA HAS NOT SHIRKED ITS NATIONAL RESPONSIBILITIES TO DATE (WEAPONS TESTING, MILITARY TRAINING, SITE OF A LOW-LEVEL RADIOACTIVE WASTE REPOSITORY) BUT WE DO NOT WISH TO BE CONSIDERED AS "SUITABLE" PRIOR TO THE TEST OF RIGOROUS TECHNICAL ANALYSES. WE FEEL THAT THE METHODOLOGY AS ESTABLISHED IN THE NWPA SHOULD CONTINUE AS DESIGNED.

TO PLACE IN CONTEXT MY STATEMENT RELATIVE TO THE MISSION PLAN, I WOULD LIKE TO BRIEFLY DESCRIBE THE ROLE OF CLARK COUNTY IN THE NUCLEAR WASTE PROGRAM. URBANIZED LAS VEGAS AND UNINCORPORATED CLARK COUNTY HAS A POPULATION OF 600,000 THAT WILL GROW TO APPROXIMATELY 1 MILLION BY THE TIME OF THE WASTE SHIPMENTS IN 1998. WE ARE APPROXIMATELY 60 MILES FROM THE PROPOSED YUCCA MOUNTAIN SITE. (SEE EXHIBIT "A"). THIS DISTANCE IS DECEPTIVE, HOWEVER. IF YOU'LL REFER TO EXHIBITS "B" AND "C" IN MY DISTRIBUTED TESTIMONY YOU WILL NOTE THAT INTERSTATE 15, UNITED STATES ROUTES 93 AND 95 AND THE UNION PACIFIC RAILROAD LINE, ARE ALL POTENTIAL ROUTES OF TRANSPORT OF HIGH-LEVEL RADIOACTIVE MATERIAL AND ALL DIRECTLY BISECT THE LAS VEGAS METROPOLITAN AREA. THIS MEANS THAT METROPOLITAN CLARK COUNTY WILL CONCEIVABLY BE THE RECIPIENT OF THOUSANDS OF SHIPMENTS OF RADIOACTIVE MATERIAL OVER THE TWENTY YEAR TIME FRAME OF THE PROGRAM. AS YOU CAN WELL SEE, THIS PROVIDES THE POTENTIAL FOR DIRECT IMPACT ON THE HEALTH AND WELFARE OF THE CITIZENS OF A DENSELY POPULATED URBAN AREA. THE SHIPMENTS MAY ALSO ADVERSELY AFFECT LAS VEGAS' DOMINANT INDUSTRY, TOURISM, AS WELL AS THE LIFE STYLE OF LOCAL RESIDENTS.

TO RETURN TO THE QUESTION AT HAND, IN OUR REVIEW OF THE MISSION PLAN AND IN OUR CONSIDERATION OF THE PROGRAM IN GENERAL, WE HAVE THE FOLLOWING MAJOR CONCERNS:

1) ROLE OF LOCAL GOVERNMENT;

2) TRANSPORTATION ISSUES; AND

3) SOCIO-ECONOMIC ISSUES.

ROLE OF LOCAL GOVERNMENT

THE MISSION PLAN, AS WE UNDERSTAND THE DOCUMENT, IS TO PROVIDE A BLUEPRINT FOR THE IMPLEMENTATION OF REPOSITORY PROGRAM OBJECTIVES. OF MAJOR CONCERN TO CLARK COUNTY AND TO OTHER LOCAL COMMUNITIES IN NEVADA, HOWEVER, IS THE LACK OF EMPHASIS PLACED ON PROVIDING LOCAL GOVERNMENT WITH A MAJOR ROLE IN THE NUCLEAR WASTE PROGRAM. IN CLARK COUNTY'S COMMENTS ON THE DRAFT MISSION PLAN SUBMITTED EARLIER THIS YEAR, WE NOTED THAT IT WAS SHORTSIGHTED ON THE PART OF THE FEDERAL GOVERNMENT NOT TO HAVE LOCAL GOVERNMENTS MORE ACTIVELY INVOLVED IN ALL PHASES OF THE PROGRAM. WE DO NOT SEE EVIDENCE IN THE FINAL MISSION PLAN THAT THE DOE HAS STRENGTHENED THE ROLE OF LOCAL GOVERNMENT SIGNIFICANTLY. ALTHOUGH THE WASTE REPOSITORY HAS BEEN DESCRIBED AS AMERICA'S PROBLEM, LOCAL GOVERNMENT WILL POTENTIALLY BE ADVERSELY IMPACTED BY THE DECISIONS OF THE PROGRAM. THE MISSION PLAN, THEREFORE, SHOULD RECOGNIZE THE POTENTIAL SIGNIFICANCE THE PROGRAM MAY HAVE ON LOCAL COMMUNITIES AND NOT HESITATE TO INCLUDE THEM AS PARTNERS IN THE DECISION-MAKING PROCESS. I WILL FURTHER RELATE THIS ISSUE TO TWO AREAS OF IMPORTANCE TO CITIZENS AND ELECTED OFFICIALS IN CLARK COUNTY: THE TRANSPORTATION OF NUCLEAR WASTE AND SOCIO-ECONOMIC QUESTIONS.

TRANSPORTATION ISSUES

I MENTIONED EARLIER THE POTENTIAL IMPACTS ON A DECISION TO USE THE DOT'S ROUTING SCHEME IN METROPOLITAN LAS VEGAS. THE TRANSPORT OF NUCLEAR WASTE IS AN ISSUE THAT REQUIRES STRONG STATE AND LOCAL INVOLVEMENT. UNFORTUNATELY, THE MISSION PLAN AGAIN RELEGATES CITIES AND COUNTIES TO THE ROLE OF A MINOR ACTOR IN THE PROGRAM. THE LACK OF LOCAL INPUT HAS LED TO THE CONSIDERATION OF ROUTING SCENARIOS BY THE DOE THAT ARE ILL-ADVISED. ONE EXAMPLE WITH REGARD TO NEVADA WAS DISPLAYED ON MAPS AT SEVERAL MEETINGS BY DOE PERSONNEL. THESE ILLUSTRATED THE TRANSPORT OF NUCLEAR MATERIAL ON A ROUTE THAT COULD ONLY INCLUDE HOOVER DAM. IN ADDITION TO BEING A MAJOR TOURIST ATTRACTION THE ROUTE IS IN A MOUNTAINOUS AREA AND OFFERS A HIGH

DEGREE OF POTENTIAL FOR ACCIDENT. SHOULD AN ACCIDENT OCCUR AND THE WATER QUALITY OF THE COLORADO RIVER DEGRADED, THE WATER SUPPLY OF MILLIONS OF PEOPLE IN CALIFORNIA, NEVADA, ARIZONA AND MEXICO WOULD BE JEOPARDIZED. IN THE CASE OF MEXICO, WATER QUALITY DEGRADED BY RADIOACTIVITY WOULD ALSO MEAN THE VIOLATION OF AN INTERNATIONAL TREATY.

IN ADDITION TO THE ROUTING OF RADIOACTIVE MATERIALS, LOCAL GOVERNMENT ALSO HAS A ROLE TO PLAY IN EMERGENCY RESPONSE AND A STRONG INTEREST IN QUESTIONS OF LIABILITY. THE PRICE-ANDERSON ACT, FOR EXAMPLE, WHICH SETS LIMITS ON GOVERNMENTAL LIABILITY FOR NUCLEAR ACCIDENTS, IS BEING CONSIDERED FOR RENEWAL IN 1987. AMONG THE PROVISIONS THAT WE IN LOCAL GOVERNMENT FEEL SHOULD BE ADDRESSED INCLUDE:

1) THERE SHOULD BE NO LIMITS ON LIABILITY SPECIFIED AND ALL TYPES OF ACCIDENTS SHOULD BE COVERED; AND

2) DEFENSE GENERATED WASTE SHOULD BE INCLUDED IN LIABILITY PROVISIONS.

THE ENTIRE ISSUE OF HIGH-LEVEL NUCLEAR WASTE TRANSPORTATION IS ONE WHICH LOCAL GOVERNMENT SHOULD BE DEEPLY INVOLVED. THE MISSION PLAN SHOULD REFLECT THIS INVOLVEMENT.

SOCIO-ECONOMIC

THE LAST ISSUE OF IMPORTANCE THAT I WILL DISCUSS RELATES TO THE IMPACT OF REPOSITORY ACTIVITIES ON STATE AND LOCAL FINANCES. THE CONSTRUCTION, OPERATION AND DECOMMISSIONING OF A REPOSITORY CAN RESULT IN SUBSTANTIAL DEMANDS ON COMMUNITIES FOR SERVICES AND FACILITIES SUCH AS SCHOOLS, POLICE

AND FIRE PROTECTION. ALTHOUGH THIS ISSUE WILL BE OF EXTREME IMPORTANCE TO THE SERVICE PROVIDERS, THE DOE RELEGATES THESE SO-CALLED "OFF SITE" ISSUES A RELATIVELY MINOR ROLE IN THE MISSION PLAN. LIKEWISE, IT MAKES BARE MENTION OF INVOLVING LOCAL COMMUNITIES IN ATTEMPTING TO MINIMIZE THE DISLOCATIONS THAT CAN OCCUR BETWEEN THE DEMAND AND PROVISION OF SERVICES IN SUCH A PROGRAM. THE MISSION PLAN FALLS SHORT OF PROVIDING A COMPREHENSIVE APPROACH TO THE NUCLEAR WASTE ISSUE.

SUMMARY AND RECOMMENDATIONS

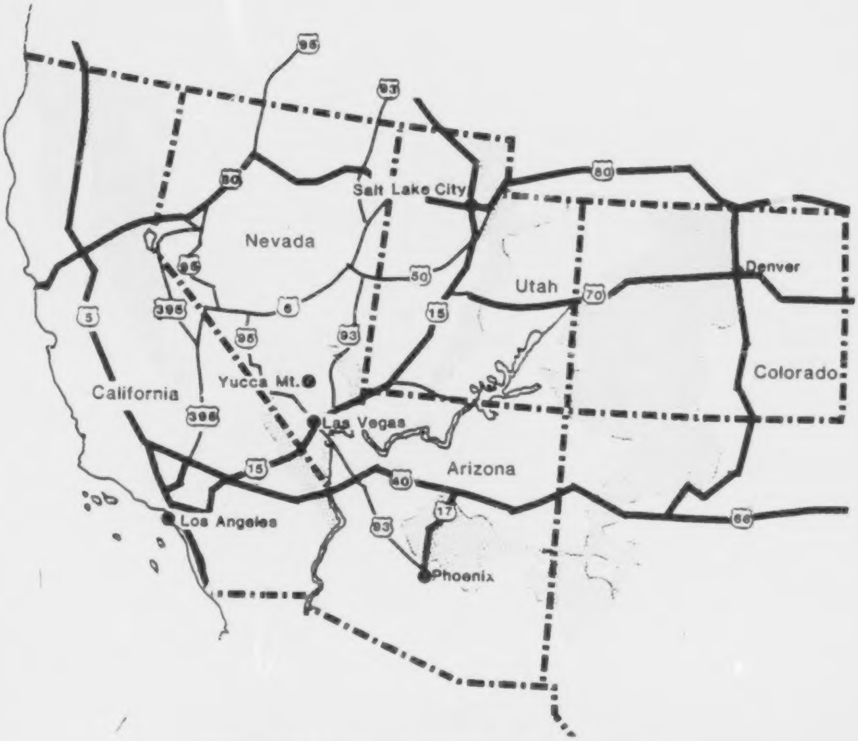
I WOULD AGAIN LIKE TO THANK YOU FOR THE OPPORTUNITY TO SPEAK IN FRONT OF THE SUBCOMMITTEE THIS MORNING. TO SUMMARIZE A COUPLE OF KEY POINTS, I WOULD LIKE TO HAVE THE COMMITTEE CONSIDER THE FOLLOWING:

1) LOCAL GOVERNMENT NEEDS TO BE PROVIDED A STRONGER ROLE IN THE PROGRAM. THIS SHOULD BE SPECIFIED IN THE MISSION PLAN. IDEALLY, A REVISION IN THE NUCLEAR WASTE POLICY ACT WOULD MAKE LOCAL GOVERNMENTS, NOTABLY THOSE TO BE DIRECTLY AFFECTED BY THE PROJECT, SUCH AS LAS VEGAS AND CLARK COUNTY, EQUAL PARTNERS WITH THE STATES AND INDIAN TRIBES IN PROGRAM DEVELOPMENT.

2) PRIME EXAMPLES OF ISSUES NEEDING STRONG LOCAL INVOLVEMENT WOULD BE WITH REGARD TO TRANSPORTATION AND SOCIO-ECONOMIC QUESTIONS, BOTH OF WHICH PROVIDE THE OPPORTUNITY FOR GREAT POTENTIAL ADVERSE IMPACT TO LOCAL GOVERNMENTS.

THIS CONCLUDES MY TESTIMONY. I'D BE GLAD TO ANSWER ANY QUESTIONS.

EXHIBIT "A"


95
93
80
Salt Lake City
Nevada
95
50
395
6
95
93
15
Utah
70
Denver
Colorado
5
California
Yucca Mt.
395
Las Vegas
15
40
Arizona
17
93
Los Angeles
Phoenix
66

REGIONAL ACESS ROUTES TO YUCCA MT., NEVADA

Legend

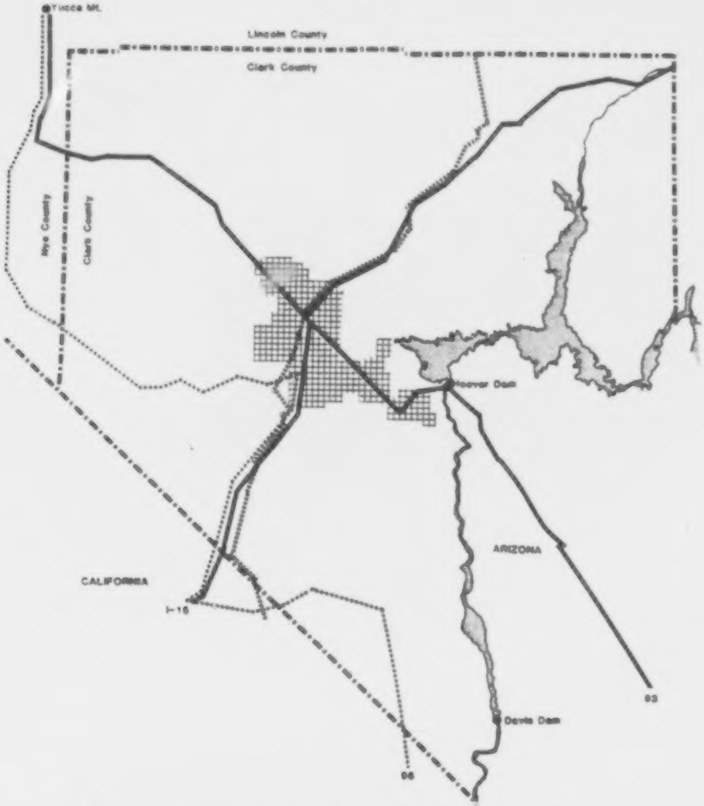
▬ Interstate

— US Highway

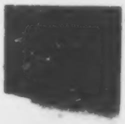
Mountain Areas

CLARK COUNTY DEPARTMENT OF
COMPREHENSIVE PLANNING
CLARK COUNTY BRIDGER BUILDING [illegible]
[illegible] BRIDGER AVENUE, SEVENTH FLOOR
LAS VEGAS, NEVADA [illegible]

EXHIBIT "B"


Yucca Mt.
Lincoln County
Clark County
Nye County
Clark County
Hoover Dam
ARIZONA
CALIFORNIA
I-15
93
Davis Dam
95

PROPOSED HIGH LEVEL NUCLEAR WASTE ROUTES
THROUGH CLARK COUNTY, NEVADA

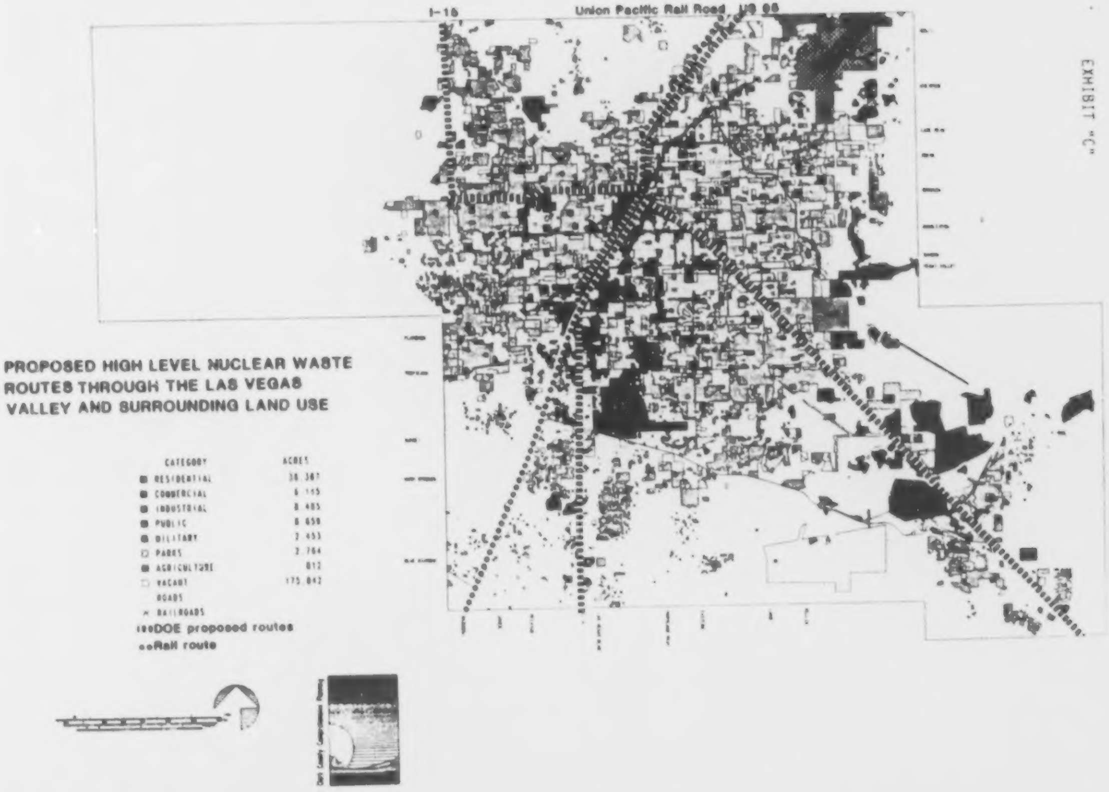


Legend

- ━ DOE proposed routes
- ┅ Rail routes
- ┈ Alternative highway route
- ▦ Las Vegas Valley urban area

CLARK COUNTY DEPARTMENT OF
COMPREHENSIVE PLANNING

EXHIBIT "C"



PROPOSED HIGH LEVEL NUCLEAR WASTE ROUTES THROUGH THE LAS VEGAS VALLEY AND SURROUNDING LAND USE

CATEGORY	ACRES
■ RESIDENTIAL	38,387
■ COMMERCIAL	6,155
■ INDUSTRIAL	8,485
■ PUBLIC	8,659
■ MILITARY	2,453
☐ PARKS	2,764
■ AGRICULTURE	812
☐ VACANT	175,842
ROADS	
⌿ RAILROADS	

▪▪▪DOE proposed routes

●●Rail route

Senator **Hecht**. Mr. Robert Tomonto; right?

STATEMENT OF JAMES R. TOMONTO, FLORIDA POWER & LIGHT; CHAIRMAN, UTILITY NUCLEAR WASTE MANAGEMENT GROUP; AND THE HIGH-LEVEL WASTE WORKING GROUP, MIAMI, FL

Mr. **Tomonto**. Mr. Chairman, I am pleased to have the privilege of appearing before you today. My name is James R. Tomonto and I'm chairman of the High-Level Waste Working Group of the Utility Nuclear Waste Management Group.

I request that my written statement be included in the record.

The success of the DOE commercial Nuclear Waste Program is vital to the continued operation of the Nation's 121 nuclear powerplants, those in commercial operation, in the testing phase, and under construction.

The nuclear utilities and their customers are bearing the total cost, so far for this program, as a matter of fact about $2 billion to date, and we have a very strong interest in assuring the success, timeliness, reasonableness, and cost effectiveness of its implementation.

We believe that the mission plan clearly meets the intent of section 301 of the Nuclear Waste Policy Act to provide an information basis sufficient to permit informed decisions to be made in carrying out the repository program. In general, we believe the mission plan is a credible document.

In my testimony today, I would like to focus on four aspects of the mission plan.

Senator **Hecht**. Your full testimony will be a matter of the record.

Mr. **Tomonto**. Thank you.

First is an improved performance system. We believe that the improved performance plans and integrated monitored retrievable storage facility appears to offer substantial flexibility to the overall waste program in a manner that provides greater assurance of satisfying the many requirements of the Nuclear Waste Policy Act of 1982. We believe that the MRS can be constructed in such a manner that it will not—and in fact, it must not—detract from the principal effort of siting a geologic repository.

The integrated MRS appears to allow important program elements to be performed early, thus removing them from the critical path tied to the selection of the waste repository site. We believe that this could lead to greater economy and efficiency of operation in the long run.

The second aspect is the schedule. An essential and virtually unprecedented aspect of the Nuclear Waste Policy Act are the detailed scheduled deadlines mandated by the Congress for accomplishing the requirements of the act.

Accordingly, the Secretary of the DOE must prepare a project decision schedule that portrays the optimum way to obtain the operation of the repositories involved within the time period specified. The Secretary is also required to submit to the Congress a written report of the failure of a Federal agency to comply with any delay in this schedule.

We respectfully submit that this subcommittee remind DOE of its statutory obligation to comply as closely as possible with the schedules established by Congress, and to set forth in the project decision schedule, ways of optimizing compliance with the deadlines.

Further, DOE must report schedule problems; not only schedule problems of other Federal agencies, but also those of its own making.

The third aspect is the timing of the preliminary determination of site suitability which has been discussed at length today. On this issue, the utilities agree emphatically with the view of DOE. We append to our written statement an elaboration of our understanding of the legislative background of this. However, we believe that if the preliminary determination were to be required after site characterization, the entire process of site selection becomes subject to an unacceptable risk that the schedules laid down in the act will not be met.

DOE would be required either to characterize more than three sites, something that's inconsistent with the explicit language of the act, or face the unacceptable risk of large schedule delays and huge cost increases, should one of the initial three sites be found unsuitable.

DOE's interpretation, we believe, is the only one consistent with the overall purpose, structure, and mandate of the act.

And lastly, I'd like to mention defense waste issues. I agree with Ms. Anderson here that the President has determined that high-level radioactive waste resulting from atomic energy defense activities should be commingled. Of course, efficiency was a major consideration in making this decision. The proper arrangements, though, for cost allocation and acceptance schedules for the waste streams, commercial and defense wastes, are of considerable interest to us and importance to our ratepayers.

DOE treats this important issue with a bland, noncommital statement in the mission plan, to the effect that negotiations are underway with other DOE offices to establish an equitable cost-sharing plan. The utilities are concerned that the DOE exercise will justify the lowest possible cost be allocated to be defense wastes, rather than an equitable and realistic basis for cost-sharing.

DOE doesn't have any incentive to do otherwise. We ask this committee to advise DOE to pursue an open process, and to involve the utilities directly in the early consideration of an equitable cost-sharing basis.

We have identified a cost allocation approach that is based on the primary characteristic used in DOE documents to justify commingling; namely, cost-sharing. We have described this in greater detail in our attachments to our written statement, but based on our preliminary analysis, we find that the defense waste activity should bear nearly one-third of the total cost of developing, siting, licensing, constructing, and operating the first geologic repository.

We're not looking for a subsidy from the defense side, nor do we desire to subsidize them.

In conclusion, we look to the subcommittee and to the Congress to provide continued oversight to the DOE in its implementation of the Nuclear Waste Policy Act and the utility industry itself will also perform a continuing oversight

Thank you for this opportunity.

Senator HECHT. Thank you very much.

[The prepared statement of Mr. Tomonto follows:]

STATEMENT OF

JAMES R. TOMONTO

FLORIDA POWER & LIGHT COMPANY

CHAIRMAN, UTILITY NUCLEAR WASTE MANAGEMENT GROUP

HIGH-LEVEL WASTE WORKING GROUP

ON BEHALF OF

EDISON ELECTRIC INSTITUTE

AMERICAN NUCLEAR ENERGY COUNCIL

UTILITY NUCLEAR WASTE MANAGEMENT GROUP

AND

ELECTRIC UTILITY COMPANIES'

NUCLEAR TRANSPORTATION GROUP

ON

DEPARTMENT OF ENERGY'S MISSION PLAN

FOR THE CIVILIAN NUCLEAR WASTE MANAGEMENT PROGRAM

BEFORE

SUBCOMMITTEE ON ENERGY RESEARCH AND DEVELOPMENT

COMMITTEE ON ENERGY AND NATURAL RESOURCES

UNITED STATES SENATE

SEPTEMBER 12, 1985

Mr. Chairman and members of the Committee: I am pleased to have the privilege of appearing before you today to testify on the Department of Energy's Mission Plan for the Civilian Radioactive Waste Management Program. My name is James R. Tomonto, and I am employed by Florida Power & Light Company as Senior Consultant. My testimony is presented on behalf of the Edison Electric Institute (EEI), the American Nuclear Energy Council (ANEC), the Utility Nuclear Waste Management Group (UNWMG), and the Electric Utility Companies' Nuclear Transportation Group (NTG). I presently am Chairman of the High-Level Waste Working Group of the UNWMG.

EEI is the national association of investor-owned electric companies. Its members serve approximately 73 percent of all ultimate electric customers in the nation. EEI's membership includes the majority of DOE's nuclear waste services customers.

ANEC represents over 100 organizations having an interest in nuclear power, including investor, public and cooperatively-owned utilities, manufacturers, architect-engineers, and various firms in the nuclear fuel cycle.

UNWMG is a specific activity that is funded by 46 utilities with nuclear programs, including EEI member companies, public utilities, and cooperatively-owned utilities. Its sole purpose is to oversee the implementation of the Nuclear Waste Policy Act and to assist in the resolution of spent fuel storage and nuclear waste disposal issues.

NTG represents 37 investor-owned and publicly-owned utilities. A prime objective is to provide review and comment for DOE's spent fuel transportation activities.

The success of the DOE commercial nuclear waste program is vital to the continued operation of the nation's 121 nuclear units -- those in commercial operation, in the testing phase, and under construction. This federal program has thus far been funded solely by those utilities which operate nuclear power plants at an assessed fee of one mill per kilowatt-hour of nuclear-generated electricity. This assessment produces revenues at an annual rate of approximately $350 million per year. On June 28, 1985, a majority of the utilities which had generated spent fuel prior to April 7, 1983 paid DOE a one-time fee for disposal of such spent fuel in an amount of approximately $1.4 billion. Recent DOE estimates of the total program cost for disposal of civilian nuclear waste are between $24-$29 billion (in 1984 dollars). The nuclear utilities and their electricity customers are bearing the cost for this program and have a very strong interest in assuring its success, timeliness, and the reasonableness and cost-effectiveness of its implementation.

The DOE Mission Plan serves as a blue-print for the implementation of the Nuclear Waste Policy Act and the establishment of two geologic repositories for disposal of both commercial and defense-generated spent fuel and high-level radioactive waste. The Mission Plan clearly meets the intent of Section 301 of the Nuclear Waste Policy Act to provide "an informational basis sufficient to permit informed decisions to be made in carrying out the repository program." In general, we believe that the Mission Plan is a credible document. While there are certainly areas in DOE's proposed implementation of this program that need to be addressed in considerably more detail in the future -- such as the strategy for licensing the repositories, development of the spent fuel transportation system, and establishment of an effective program of interaction with the states, Indian tribes and the public -- the specifics can be and should be developed outside of the scope of the Mission Plan itself.

In my testimony today I would like to focus on four aspects of the DOE Mission Plan:

- The improved-performance system with an integral MRS facility.
- The reference schedule for implementation of the Nuclear Waste Policy Act.
- The timing of DOE's preliminary determination that alternative sites are suitable for location of a repository.
- The allocation to defense waste programs of costs for repository development, siting, construction and operations.

IMPROVED PERFORMANCE SYSTEM

The Improved Performance Plan with an Integrated Monitored Retrievable Storage Facility (MRS) appears to offer substantial flexibility to the overall waste program in a manner that provides greater assurance of satisfying the many requirements of the Nuclear Waste Policy Act of 1982.

DOE is currently preparing a proposal for presentation to Congress in accordance with Section 141(b) of the Nuclear Waste Policy Act. We look forward to reviewing that report in some detail. The utilities believe that the integrated MRS can be an important contributor to the implementation of the Nuclear Waste Policy Act. We believe that the MRS can be constructed in such a manner that it will not -- indeed, must not -- detract from the principal effort of siting, constructing and licensing permanent geologic repositories for nuclear waste.

The integrated MRS appears to permit important program elements to be performed early -- by removing them from a critical path tied to the selection of the waste repository site -- and should lead to greater economy and efficiency of operation in the long run. As mentioned earlier, we will be reviewing the proposal submitted to Congress next year to ensure that such economies and efficiencies are indeed evident -- and, hence, must reserve judgment until such review is possible.

SCHEDULE

An essential and virtually unprecedented aspect of the Nuclear Waste Policy Act was the detailed schedule with deadlines mandated by the Congress for accomplishment of the requirements of the Act by the federal agencies. Indeed, one of the purposes of the Nuclear Waste Policy Act was "to establish a schedule for the siting, construction, and operations of repositories that will provide a reasonable assurance that the public and the environment will be adequately protected from the hazards posed by high-level radioactive waste and such spent fuel as may be disposed of in repository..."1/ Accordingly, Section 114(e) of the Act requires the Secretary of Energy to prepare a Project Decision Schedule "that protrays the optimum way to attain the operation of the repository involved, within the time periods specified." The Secretary is also required to submit to the Congress a written report of the failure of a federal agency to comply with any deadline in the Project Decision Schedule.

DOE's compliance with this aspect of the Nuclear Waste Policy Act continues to be less definitive than needed to serve as an effective yardstick for the progress of the program. A preliminary draft of the Project Decision Schedule was issued for comment in January 1985. Table 1 of the preliminary draft (which lists activities required to site, construct and operate the first geologic repository) compared the schedule established by the Act and the then DOE "reference schedule." In the July 1985 Draft Project Decision Schedule, the listing of statutorily-mandated schedules is eliminated (for no defined reason) and the new "reference schedule" for site recommendation is March 1991 -- four years later than established by Congress. Thus while Congress believed in 1982 that the schedules were "realistic and workable" and expected "the involved agencies to do everything possible to assure that [the] schedule is met,"2/ the deadlines

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1/ Nuclear Waste Policy Act, Section 111(b)(1).
2/ S. Rep. No. 282, 97th Cong., 1st Sess. 21 (1981).

established by law are now eliminated from the Project Decision Schedule and the obligation to report any failure to maintain schedules is not being fulfilled.

We respectfully suggest that this Subcommittee remind DOE of its statutory obligation to comply as closely as possible with the schedules established by Congress and to set forth in the Project Decision Schedule ways of optimizing compliance with deadlines. Further, DOE must comply with Section 114(e) in reporting schedule problems, not only schedule problems of other federal agencies, but of its own making. It was with great concern that we noted that DOE missed the key January 1, 1985 date for recommending three candidate sites to the President for characterization. There is now a critical need for DOE to stick to the November 1985 date shown in the Reference Schedule.

DOE should be using the Project Decision Schedule as a means of establishing and maintaining planning coordination and schedule commitment from other federal agencies. In this regard DOE must develop and firmly exercise centralized project management capability or schedules will inevitably continue to slip and the opportunity to make up lost ground will vanish.

TIMING OF THE PRELIMINARY DETERMINATION OF SITE SUITABILITY

In discussions before the Nuclear Regulatory Commission during the concurrence process for the geologic repository site selection guidelines, a question was raised regarding an interpretation of Section 114(f) of the Nuclear Waste Policy Act: Must the Secretary of Energy's "preliminary determination" that the three "alternate sites" considered in the environmental impact statement ("EIS") are "suitable for development as repositories" be made prior to, after completion of, or at some time during site characterization? This question was answered clearly in the Mission Plan -- the preliminary determination of site suitability will be made by DOE at the time DOE recommends three sites to the President of the United States for characterization.

DOE's position was endorsed in a letter to the Secretary of Energy signed by Senators McClure, Domenici, Simpson and Johnston. Letters from Congressmen Dingell, Markey, Swift and Wyden and from Congressman Udall, however, take a dissenting view. On this issue, the utilities agree emphatically with the view of DOE and the distinguished Senators. We append to this written statement as Attachment A an elaboration of our understanding of the legislative history of Section 114(f) and the proper statutory construction of that provision.

While the last-minute compromise language of Section 114(f) may not have been a model of clarity, the unambiguous intent of the Nuclear Waste Policy Act was to characterize three sites and select one of the three for the first geologic repository. The Congress provided deadlines for DOE in siting, licensing and constructing the repository. While the interpretation of the distinguished Congressmen may be a legitimate reading of the words in isolation, it ignores the purpose, structure and mandate of the Nuclear Waste Policy Act -- to establish a geologic repository for the safe, environmentally sound isolation of nuclear wastes by 1998. Their interpretation of the Section 114

(f) to require a preliminary determination after three or four years of site characterization is both an odd use of the word preliminary and an exultation of process over program objectives.

If the preliminary determination were to be required after site characterization, the entire process of site selection becomes subject to an unacceptable risk that the schedules laid out in the Act will not be met. DOE would be required either to characterize more than three sites, something inconsistent with the explicit language of the Act, or face the unacceptable risk of large schedule delays and huge cost uncertainties should one of the initial three sites be found unsuitable. DOE's interpretation is the only one consistent with the overall purpose, structure, and mandate of the Act.

DEFENSE WASTE ISSUES

The President has determined that high-level radioactive waste resulting from atomic energy defense activities should be commingled with civilian spent fuel and waste in one or more geologic repositories. Cost efficiency was the major consideration for this decision. Utilities are vitally interested in the cost effective execution of the Nuclear Waste Program. This should not be surprising -- since the entire expense of the program to date has been borne by our ratepayers. The proper arrangements for cost allocation and acceptance schedules for the two waste streams are also of considerable interest and importance to the nuclear utilities and their ratepayers. The proper allocation of costs is a multi-billion dollar issue and the timing of acceptance of defense wastes at the first geologic repository will very likely have a significant impact on the spent fuel backlog. DOE treats this important issue with a bland, non-commital statement in the Mission Plan:

> "Negotiations are underway with other DOE offices to both establish an equitable cost-sharing method and to develop a waste-acceptance schedule that integrates the two major waste streams."3/

The utilities are concerned that these negotiations will be little more than an internal DOE exercise in creative accounting to justify the lowest possible cost to be allocated to defense wastes rather than an equitable and realistic basis for cost sharing. DOE has no incentive to do otherwise. We submit that these negotiations should be between DOE and the other real party of interest -- the utilities. We stand prepared to sit down with representatives of DOE to hammer out a cost allocation formula and waste acceptance criteria that will be fair and equitable. The results of that process should be subject to public comment and Congressional approval -- as the Congress will have to authorize the payments into the Waste Fund for defense waste disposal. It would be inherently arbitrary and an abuse of administrative process for this decision to be made solely within DOE. We ask this Subcommittee to advise DOE to pursue an open process and to involve the utilities directly in the early

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3/ U.S. DOE, Mission Plan for the Civilian Radioactive Waste Management Program, Volume I at § 2.5.1 (June 1985).

consideration of an equitable cost sharing approach. Also, the timing of placing monies for the defense waste disposal in the Nuclear Waste Fund should be comparable with the commercial side. A one-time fee similar to that required by the utility contracts for all waste generated prior to April 7, 1983 should be paid in a similar manner, with interest, since they were not paid by June 28, 1985. Other fees due should be paid quarterly -- according to an equitable billing formula.

The cost allocation issue is subject to many different proposals. One suggestion being considered by DOE would allocate the defense share based on the percent of total curie content of the waste at the time of disposal. While this idea may on its face sound equitable, the fee for civilian spent fuel is based on burn up (per kilowatt-hour) which equates more to total radioactivity (or curie content) at the time of discharge from the reactor core. The curie content of waste at the time of disposal -- which may be decades after the waste was generated -- will be considerably decayed. Thus an allocation based on total curie content at disposal would credit defense waste with radioactive decay but would not allow any such credit to civilian spent fuel and waste.

The utilities have identified a cost allocation approach that is based on the primary characteristic used in DOE documents to justify commingling defense and civilian wastes -- cost savings. Cost savings resulting from combined operations -- compared to the overall cost of separate disposal systems -- should be shared in proportion to the cost estimate for separate facilities. This approach results in a cost allocation of a specific percentage of each shared facility to defense and civilian wastes. We describe this approach in more detail in Attachment B to this testimony. Based on our preliminary analysis, we find that the defense waste activity should bear nearly one-third of the cost of developing, siting, licensing, constructing and operating the first geologic repository. We look forward to working with DOE to refine this estimate and to develop a mutually acceptable and equitable formula. We are not looking for a subsidy from the defense side, nor do we desire to subsidize them. A reasonable and equitable arrangement needs to be developed and subjected to broad scrutiny.

CONCLUSION

We look to this Subcommittee and to the Congress to provide continued oversight to DOE in its implementation of the Nuclear Waste Policy Act. Specifically, today, we ask this Subcommittee to direct DOE to work to optimize schedules for meeting the deadlines mandated in the Nuclear Waste Policy Act. We urge this Subcommittee to state its concurrence in DOE's interpretation of Section 114(f) of the Nuclear Waste Policy Act. We ask also that you endorse our proposal for an opportunity to participate in a meaningful way in the establishment of a fair and equitable arrangement for the allocation of costs and waste acceptance between civilian and defense waste activities. Finally, we recommend that this Subcommittee report its view that the Mission Plan, subject to the clarifying comments of the Subcommittee, satisfies the requirement of Section 301 of the Nuclear Waste Policy Act and, may be used by the Secretary as a basis for implementation of the Nuclear Waste Policy Act.

Thank you for this opportunity to present our views to you today.

Attachment A to EEI, ANEC, UNWMG, NTG Statement
by James R. Tomonto

INTERPRETATION OF SECTION 114(f) OF THE NUCLEAR WASTE POLICY ACT

Section 114(f) of the Nuclear Waste Policy Act ("NWPA") details compliance with the National Environmental Policy Act of 1969 ("NEPA") in selecting the first geologic repository for waste disposal, and provides in pertinent part:

> For purposes of complying with the requirements of the National Environmental Policy Act of 1969 (42 U.S.C. 1321 et seq.) and this section, the Secretary [of Energy] shall consider as alternate sites for the first repository to be developed under this subtitle 3 candidate sites with respect to which (1) site characterization has been completed under Section 113; and (2) the Secretary has made a preliminary determination that such sites are suitable for development as repositories consistent with the guidelines promulgated under Section 112(a).

Comments on the Mission Plan elicited conflicting views on the timing of the "preliminary determination" of site suitability. DOE has interpreted the NWPA to allow the "preliminary determination" to be made at the time the Secretary recommends three sites to the President for site characterization. See Mission Plan, Volume II, § 5.4.1 at 138-40.

In their comments on the Mission Plan, the NRC, certain States and environmental groups argued that three sites must receive a "preliminary determination" of suitability after site characterization activities are completed. While the language of this section and the legislative history surrounding the inclusion of the language at issue in the Act are not without some ambiguity, DOE's interpretation is the only one consistent with the purpose, structure and mandate of the Act.

The position taken by the NRC, et al., would require a finding of site suitability at the end of the site characterization process. Such an interpretation would be an odd time for a preliminary determination (since DOE will then have all of the information available to make its final determination) and it would necessarily require that three sites survive characterization. DOE notes that such an interpretation means either characterizing more than three sites or accepting the risk of large schedule and cost uncertainties should one of the initial three sites be found unsuitable. For this reason it is inconsistent with the Act.

Section 112(b)(1) of the Act directs the Secretary to "nominate at least 5 sites" and "recommend to the President 3 of the nominated sites" for site characterization. The Act does not permit characterization of more than three sites (otherwise the Act would have directed the Secretary to recommend at least three sites for characterization). The NWPA does not contemplate, nor would the mandated schedule for repository initial operations permit, the possibility of delay while characterizing a fourth or fifth site, should one or more of the three sites be found unsuitable after characterization was completed.

One of the principal amendments in the Senate version of the House-passed bill was in changing the site selection process. The House bill was to have the Secretary recommend to the President at least five sites by July, 1984 and one additional site by February 1, 1985 for site characterization. From these six (or more) sites at least three would be characterized. The Senate bill provided that at least five sites would be nominated, but only three would be recommended for characterization and one would be selected for the first repository.[1]

While the language of the Act is complex and not without some ambiguity, the answer to this important question of interpretation, in the context of the site selection process, is compellingly clear. Senator Simpson asked for clarification of the repository site selection procedure during final Senate debate as reflected in the following brief excerpt from a colloquy with Senator Johnston.[2]

> MR. SIMPSON. . . . .
>
> Of the five sites nominated in the first round, three will be recommended for characterization, and one of these three will be selected as the first repository.
>
> . . . .
>
> MR. JOHNSTON. The Senator is correct.

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[1] See 128 Cong. Rec. S 15641 (daily ed. Dec. 20, 1982).

[2] 128 Cong. Rec. S 15660-61 (daily ed. Dec. 20, 1982).

Senator Johnston, one of the floor managers of the NWPA, did not in any way qualify his answer. He did not say that one of the three would be selected only if all three sites recommended for characterization were subsequently found "suitable". It was without doubt, the intent of Congress that one of the three initially characterized sites "will be selected as the first repository".

DOE's interpretation is the only one consistent with the Congressional mandate to implement the NWPA on the schedule established by law. An essential and virtually unprecedented aspect of the NWPA was the detailed schedules or deadlines mandated by the Congress for accomplishment of the requirements of the Act by the federal agencies, including a "roadmap" interpreting the requirements of NEPA compliance. The Senate Committees carefully considered the testimony of witnesses from DOE, NRC, other federal agencies and interested parties before reporting S. 1662. Based on such testimony, the schedules originally established in draft bills were adjusted to provide three additional years to be allocated to site identification, site characterization and selection, and to NRC's review and approval of the application to build the first repository. The Senate Committees determined the schedule to be "realistic and workable" and expected "the involved agencies to do everything possible to assure that [the] schedule is met."[3/] Indeed the

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[3/] S. Rep. No. 282, 97th Cong., 1st Sess. 21 (1981).

deadlines were extended even further after careful consideration by the House Committees and reconsideration by the Senate. The schedule could not accommodate the potential delay of characterizing a fourth or fifth site, if one or more of the three sites initially characterized were found unsuitable.

Unfortunately, there is little formal legislative history on the final version of the NWPA. Differences in the Senate-passed version of the NWPA (S. 1662) and in the House-passed version (H.R. 3809) were not resolved in a Conference Committee. Instead, the principal supporters of the bills in both Houses of Congress met informally to agree on certain amendments to a McClure substitute to the House-passed bill. The Senate then passed the McClure substitute to H.R. 3809, as amended, by voice vote. On the same day, the House agreed to the Senate's version of H.R. 3809.

As it turns out, Section 114(f) was the subject of two of seventeen negotiated amendments to the McClure substitute. The language which appears in the enacted version of the NWPA was drafted by the ad hoc Senate-House negotiators. Senator McClure described the Amendments to Section 114(f) during the final Senate debate as follows:[4]

> Mr. President, these two amendments are of a clarifying nature, to make it clear that the Secretary's preliminary determination that sites are suitable for development as repositories is to be made consistent with the Secretary's guidelines promulgated

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[4] 128 Cong. Rec. at S 15642 (daily ed. Dec. 20, 1982).

> under Section 112(a). Without reference to the 112(a) guidelines, it was not clear what criteria the Secretary was to use in making this preliminary determination, and this amendment is intended to clarify that oversight.

The amendment to Section 114(f) reflected compromise. Senator McClure wanted to avoid any possibility that the EIS to accompany the recommendation of the site for the first repository might be embroiled in litigation regarding the adequacy of the "preliminary determination" of suitability of alternate sites. The Senators and Representatives were also mindful of the need to avoid major amendments to the House-passed version in the sensitive area of NEPA compliance, to avoid last minute controversy that could result in adjournment without final passage of the Act. The compromise was to clarify the criteria for making the "preliminary determination" of the suitability of the alternate sites by reference to the guidelines promulgated under Section 112(a) for recommendation of candidate sites for site characterization in the first place. Senator McClure notes that this amendment was also meant "to clarify that the Secretary's 'preliminary determination' is to be made at that point in time when the guidelines are applied 'in considering candidate sites for recommendation'." This occurs "when the Secretary recommends three of the candidate sites to the President for characterization (i.e., prior to site characterization."5/

5/ Letter to Honorable John Herrington from Senators McClure, Domenici, Simpson and Johnston dated June 25, 1985.

In a letter from Congressmen Dingell, Markey, Swift and Wyden providing their understanding of the legislative history of Section 114(f), a statement by Representative Ottinger is cited, which offers his opinion that the preliminary determination would occur late in the site characterization program.[6/] This statement occurred December 2, 1982, prior to the Senate amendments to the site selection process. The concern addressed by Representative Ottinger was one expressed by the States that the site selection process would "be a stacked deck for or against a particular site."[7/] This concern was addressed in part by the Senate amendment which required that the preliminary determination be made on the basis of the Site Selection Guidelines to preclude consideration of a bogus site. In any event, what was "envisioned" by Representative Ottinger is not a binding interpretation of the bill -- even in the form as passed by the House.

Congressman Udall points to his statement in the December 20, 1982 Congressional Record (H. 10523) for support of his interpretation of when a preliminary determination of suitability must be made.[8/] It appears that Mr. Udall's understanding of the changes to the bill as a result of amendments in the Senate

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[6/] Letter from Congressmen Dingell, Markey, Swift and Wyden to Mr. Ben Rusche dated July 26, 1985.

[7/] 128 Cong. Rec. H. 8797 (daily ed. Dec. 2, 1982).

[8/] Letter from Congressman Udall to Mr. Benard Rusche dated July 26, 1985.

differs from Senator McClure's understanding. Senator McClure was, of course, the author and proponent of the amendments and the McClure substitute to H.R. 3809 that was passed by the Senate and the House on December 20, 1985. This difference of opinion by two of the principal sponsors of waste legislation underscores the complexity of the statute, the uncertainty of legislative history and the need to analyze the Act in the context of the overall program enacted by Congress. As noted above, such an analysis leads inexorably to the interpretation given by DOE in the Mission Plan.

The language of the NWPA and the legislative history as reflected in the floor statements on the day of its passage, support DOE's position that the President's recommendation to the Congress of the site for the first repository will be selected from the initial three sites characterized, and the EIS need only consider such sites as alternates. Thus, the preliminary determination of site suitability can logically be made only prior to site characterization. Furthermore, an interpretation to the contrary could not be sustained because it could (if one of the characterized sites were found "unsuitable" after three years of characterization activities) needlessly abort the deadlines established by the NWPA. The federal agencies tasked with implementation of the NWPA cannot ignore that statutory mandate.

Finally, DOE's interpretation of its obligations under the NWPA is to be given great weight. General Electric Uranium Management Corporation v. DOE, 764 F.2d. 896 (D.C. Cir. 1985); Chevron, U.S.A., Inc. v. Natural Resources Defense Council, Inc., 104 S.Ct. 2778 (1984).

Attachment B to EEI, ANEC, UNWMG, NTG Statement
by James R. Tomonto

THE EVALUATION OF NUCLEAR WASTE REPOSITORY PROGRAM COST SHARING BETWEEN CIVILIAN AND DEFENSE WASTES

The purpose of this document is to summarize an approach to the sharing of those parts of repository program costs which are common to civilian and defense wastes and to illustrate the application of this approach using preliminary but reasonable cost and waste data.

BACKGROUND

On April 30, 1985, a formal decision was made by President Reagan to dispose of defense high level waste in repositories that include civilian (spent fuel) wastes rather than in a separate NRC-licensed repository dedicated solely to defense waste disposal. One of the principal reasons favoring this decision is that defense and civilian wastes can be emplaced for disposal in combined repositories at considerable savings relative to emplacement in separate repositories(1). An acceptable methodology for the equitable sharing of costs will have to be established. This methodology should become a part of DOE's established annual disposal fee evaluation process, and will have to be usable over an extended period. It is therefore important that it be based on sound principles of equity in cost sharing and the consistent application of appropriate methodology.

Costs which are unique to either Defense Waste or Civilian Waste, such as waste-specific transport or storage costs, would not be shared, but would be paid wholly by the Defense or Civilian programs, as appropriate. The remainder of this document provides:

1. A suggested set of basic principles for defining "equivalence" in cost sharing.

2. A suggested method for establishing the amounts and characteristics of actual and projected wastes for disposal.
3. An outline of the minimum capability of a costing methodology that will be consistently used to evaluate the long-term costs of separate and combined disposal programs.
4. A suggested cost sharing basis in which the above equity principles, projected waste loads and costing methdologies are applied to the determination of the fraction of costs to be borne by the defense and commercial sectors, and the timing of fee payments.

The document concludes with an illustrative estimate of cost sharing which is based on application of the basic equity principles to preliminary data on waste amounts, costs and the suggested cost-sharing and fee timing methodologies.

1. EQUIVALENCE IN COST SHARING

The NWPA, Section 302(b)(4), establishes the requirement that Defense Programs pay "for deposit in the Nuclear Waste Fund, amounts equivalent to the fees" paid by the utilities. DOE's regulations establishing terms and conditions under which waste disposal services are to be provided mandate that "fees to be paid by Federal agencies will be equivalent to the fees that would be paid under the contract" 10 CFR 961.5. "Equivalence" would include the following basic characteristics of the present utility fee structure.

1. The fees are based on actual past and evaluated future program costs and the proportional sharing of total program costs (as distinguished from just the cost increments due to Defense wastes) among all prospective repository users.
2. For wastes generated prior to April 1983, an appropriate one-time payment is due in June 1985. One-time payments made thereafter accrue interest from April 1983.
3. For wastes generated after April 1983, quarterly fees are due as the fission products are generated in reactors.

4. To the extent that the total of anticipated fees exceeds evaluated costs by some ratio, both Civilian and Defense fees should include that same margin ratio.

2. AMOUNTS AND CHARACTERISTICS OF WASTES

The physical numbers, size and thermal output of the basic waste disposal units that will be received by the repository and the corresponding times of origin of the fission products that ultimately become wastes going into the disposal units is a necessary part of any total cost evaluation, and must therefore be developed. However, it is believed that another basic principle should be established: that the numbers and characteristics of waste units will be based on the actual current amounts plus the best current estimate of projected operations of waste-producing facilities that are actually in current operation, or committed and in construction, and will not include the projected operation of projected power or production facilities. This will mean that estimates of utility spent fuel output will be based on the EIA "No new orders" case, rather than the current "Mid Case" of nuclear growth which includes the projected fuel output of projected reactors. It would also mean that the defense waste from projected new Defense production facilities will not be included. It would include current and projected wastes from the existing Savannah River, Hanford and Idaho facilities except those for which repository disposal is not indicated. The basis for this suggestion is that there is already a more-than-adequate lead time for planning the disposal of wastes when a new waste-generating facility is committed. Because there is already significant uncertainty dealing with the projected output of committed facilities, it is both unnecessary and possibly contentious to add the double uncertainty of the projected output from projected facilities. The very sound practice of periodic reviews of fee adequacy provides automatically for the future inclusion of new facilities at the time they are firmly committed. At that time, appropriate adjustment of fees and cost sharing would occur.

3. REPOSITORY PROGRAM COST MODEL

It is necessary to establish an acceptable reference waste disposal program and a related facility design and cost model that can realistically represent the timing and amounts of all relevant R&D costs, and facility capital, operating, and decommissioning costs. This program cost model should be sufficiently detailed that it can realistically represent total costs and cost differences in repository programs and facilities involving (i) only defense wastes, (ii) only commercial wastes, and (iii) both defense and commercial wastes. The reference waste disposal program and cost model should be similar to those currently in use by DOE in fee adequacy studies. It is essential that the same cost model be used for each system. This will assure that common design assumptions and common cost data are utilized. In this way the resulting cost differences reflect physical differences between systems, and are not due to differences in basic assumptions or data. Although the commercial and defense programs will each have non-repository program components, facilities and related costs which are solely specific to their respective wastes, the cost analyses done for cost sharing purposes should not include these. In general the cost-sharing analysis would include only the generic part of the current program development and evaluation (D&E) costs and the repository costs, and would exclude non-repository waste-specific costs such as spent fuel or defense waste transport. It would also exclude interim storage costs such as spent fuel storage R&D, MRS program costs or Defense R&D and DWPF storage costs, except where storage facilities are shared to reduce overall costs.

However, the commercial repository program requires two repositories whose operations are expected to be coordinated. The addition of defense wastes, even if limited to one of the two repositories, will affect both repositories. Furthermore, the annual fee evaluations must be based on two repositories. It is therefore desirable that cost sharing be based on a cost analysis that includes both repositories. It is also important that the evaluations recognize the probable continuation of disposal operations past the year 2020, based on wastes that originate through the year 2020, and include these in the overall cost evaluations. The year 2020 is picked to be consistent with the established disposal fee evaluation process.

4. THE BASIS FOR COST SHARING AND FEE DETERMINATION

The projected waste loads, and the repository program cost model are used to provide consistently-developed costs for repository programs involving:

1) Only defense wastes (a single repository)
2) Only civilian wastes (two repositories)
3) Combined defense and civilian wastes (two repositories)

It is expected that the unit costs of disposal will be the lowest in the combined-repository situation. The basic question, which is also the principal concern of this document, is "How are the total costs of the combined defense-commercial repository program to be shared between the defense and civilian sectors?"

There are a number of physical characteristics of the wastes which have an influence on waste disposal costs, and which could be proposed as a basis for cost sharing. Such possible cost sharing options include:

1) Costs shared in proportion to radioactivity (curies) at generation or at emplacement.
2) Costs shared in proportion to thermal output at generation or at emplacement.
3) Costs shared in proportion to volume of wastes or volume of excavation.
4) Costs shared on the basis of numbers of disposal packages.

Actual disposal costs depend moderately on thermal output at emplacement and on the numbers of disposal packages, and depend somewhat on the volume of wastes and on the radioactivity. However, significant portions of repository costs, such as the Development and Evaluation costs are essentially independent of waste characteristics. For single waste types such as spent fuel, which have the same basic form, and which cool for similar periods, energy production is a simple and reasonable basis for allocating costs among generators of that single waste type, and that is the basis for the 1 mill/kwh disposal charge for spent fuel. However, when wastes such as defense and civilian wastes differ markedly as to waste form and cooling period, no single physical measure can be expected to represent cost dependence with sufficient accuracy for cost sharing. Therefore, the most reasonable measure for cost sharing appears to be the costs, themselves. Furthermore, the basic methodology for cost-based cost sharing between defense and civilian wastes is already in place by virtue of the established methodologies and data for the periodic evaluation of civilian waste fee adequacy. Specifically, the evaluated costs of separate and combined repository programs can provide an equitable basis for cost sharing, as follows:

> Each sector (defense and civilian) is to pay a fraction of the combined-repository-program costs which is the same as that sector's fraction of the sum of the evaluated costs for separated repository programs.

The above cost sharing basis has the inherent characteristic that the cost savings resulting from combined operations are shared in proportion to cost obligations. This characteristic appears to be a central requirement for the equitable treatment of both sectors. In addition, this cost sharing basis has the advantages of being relatively simple in concept and of avoiding the potentially-contentious need to attempt assigning costs to each sector in a combined repository program. The costs themselves are used to make the basic cost sharing assignment. This will focus the attention of the cost evaluators on the fundamental issues of comparable and consistent system representation and design, cost methodology, cost data bases, and financial assumptions, including the effective discount rate.

Once the total combined-system costs and the portions to be borne by each sector have been determined, the amount and timing of fees can also be determined. This is done by allocating the costs within each sector on a per-unit basis which is related to when the fission products are generated. The commercial sector is already using energy generation as the fee basis (1 mill/kwhe). Because of security reasons, allocation on the basis of direct energy output may not be acceptablefor defense wastes , but some reasonable basis could be used such as "per equivalent waste package" if this were closely related to when the "equivalent waste packages" (i.e., fission products) were generated.

Since the commercial-sector fees are already established, the defense-sector fees are to be determined on a comparable basis. Using the pre-April/83 number of waste units and the subsequent annual units, the amount of the defense waste one-time and annual cost obligations can be determined. The defense cost obligations are then translated into fee obligations by adding the same percentage margin that the current 1 mill/kwhe commercial waste fee represents over the newly-evaluated unit costs for the commercial sector.

5. ILLUSTRATIVE EXAMPLE OF DEFENSE WASTE COST SHARING

The approach described above is demonstrated in this section. The purpose of this example is two-fold: to illustrate the suggested method with reasonable numbers; and to indicate the general nature of the results.

With respect to waste amounts, defense waste deliveries are as stated in the Defense Waste Management Plan, DOE/DP-0015(2), totalling 19,200 packages through the year 2020, plus an additional 5 years assumed to be at 650 packages/year so as to include disposal of all waste from the reprocessing of defense production fuels discharged through 2020 assuming 5-year cooling, consistent with the same assumption for civilian spent fuel.
The commercial wastes (spent fuel) are based on the EIA's no-new-order case with increasing burnup(3), totalling 80,700 MTU discharged through 2020. At an average disposal package loading of 6 PWR/18 BWR assemblies the number of commercial packages is estimated to be about 27,600. The assumed repository disposal rates for these packages are summarized in Table 1. The assumed operating periods of the commercial and combined repositories are shorter, and the disposal rate capacity of the second repository is less than for DOE

TABLE 1

ASSUMED REPOSITORY DISPOSAL RATES

		Operating Period			
		1998-2007 (10)	2008-20 (13)	2021-25 (5)	Totals
A. Separated					
Defense,	Pkgs/yr	620	1,000	650	22,450 pkg.*
Civilian 1					
	MTU/yr	3,000	1,500	-	49,500 MTU
	Pkgs/yr	1,027	515	-	16,965 pkg
Civilian 2					
	MTU/yr	-	1,825	1,500	31,200 MTU
	Pkgs/yr	-	625	515	10,700 pkg
B. Combined					
Repo 1,	MTU/yr	3,000	1,500	-	49,500 MTU
Civilian	Pkgs/yr	1,027	515	-	16,965 pkg
Defense	Pkgs/yr	620	1,000	-	19,200 pkg
Total	Pkgs/yr	1,647	1,515	-	36,165 pkg
Repo 2,	MTU/yr	-	1,825	1,500	31,200 MTU
Civilian	Pkgs/yr	-	625	515	10,700 pkg
Defense	Pkgs/yr	-	-	650	3,250 pkg
Total	Pkgs/yr	-	625	1,165	13,950 pkg

* This total is the 19,200 packages available for disposal, plus 650 pkgs/yr for 5 years, based on defense production fuel discharges and 5-year minimum cooling, consistent with civilian fuel discharges through 2020.

evaluations, such as the Mission Plan(4) or the Fee Adequacy Assessment(5), because the amounts of spent fuel are less, consistent with the assumption that only the wastes from committed waste generation facilities are to be included. With a separate defense repository, a 28-year operating period is required. The first commercial repository is assumed to operate 10 years alone, plus 13 years overlapping with the second repository. The second commercial repository is assumed to operate alone for 5 years after 2020. In the combined repositories, the defense wastes go solely to the first repository during its operating period, and thereafter to the second repository.

It should be noted that the above evaluation includes two civilian repositories, instead of the single civilian repository assumed in the cost studies performed by Defense Programs(1). The fundamental reason for using two civilian repositories in the cost sharing analysis is that it appears undesirable to restrict defense wastes to a single repository in the absence of analyses which define the best operating mode for a two-repository system. For example, transportation impacts and costs are clearly reduced if DWPF wastes were to be shipped to the second repository presumably located in the eastern U.S. once that repository were opened. Basic system operating strategy probably requires that both repositories be capable of disposing of both defense and civilian wastes, as backup in the event of difficulties at either repository, and in anticipation of filling and closing the first repository. The fee evaluation process is already established as a two-repository evaluation and this should continue when defense wastes are added to the system. For these reasons, it is suggested that a two-repository system, including defense wastes, be the basis for the cost-sharing evaluation.

The waste package characteristics which have the strongest impact on costs are summarized in Table 2. The defense waste package has a slightly larger diameter than the commercial package and therefore costs somewhat more. However, the defense waste package has only 1/6 of the thermal output of the commercial package and is only 77% of its length. Because of this, it requires only 1/6 of the underground area and 1/8 of the placement corridor mining compared to the commercial wastes. Further, because of this reduction, the defense repository may be operable with fewer deep shafts (4 per repository vs. 5 for the commercial repository). These principal differences are reflected in the costs.

TABLE 2

ASSUMED WASTE PACKAGE CHARACTERISTICS

	Defense Package	Commercial Package
Contents:	DHLW	6 PWR/18 Bwr (2.92 MTU/pkg)
Thermal Output, Watts	500	3,000
Waste Overpack ID	61 cm	45 cm (consolidated)
Waste Canister Height	10 ft.	13 ft.
Waste Overpack Cost (1983)	$40,800	$26,100
Total No. of Packages	22,450	29,550

The cost methodology used for this preliminary assessment is based on the methodology used in the WADCOM (WAste Disposal COst Model) computer program(6). It represents the principal dependences of repository capital and operating costs on repository capacity, and on waste package characteristics, principally package size and thermal output. The overall costs are normalized to the bedded salt costs in 1983 dollars from Table 10-6 of DOE's Draft Mission Plan(4) and increased by 19% to be consistent in aggregate with the first salt repository (1984) costs in Table 1 of the Fee Adequacy Assessment(5). The latter costs are generally consistent with the aggregate costs in Table 10-9 of the Final Mission Plan(4). The resulting cost model is believed to provide a reasonable representation of repository costs and cost differences that are related to variations in repository capacity and waste package characteristics. The results will be internally consistent in the sense that basic assumptions and cost data are common to all cases, and the cost differences that are generated will be due to identifiable physical differences between systems.

The cost analyses were performed on three systems:

1) A defense-only repository
2) Two commercial-only repositories
3) Two combined defense-commercial repositories

The repositories which include commercial waste perform the fuel consolidation function in repository surface facilities. The defense-only repository does not need this function and saves the associated capital and operating costs. In the combined repositories, cask handling and waste package handling and disposal facilities are larger to accommodate the added requirement due to defense wastes. The same amounts of waste disposal are assumed to occur each year in both the separate and combined systems. In addition, development and evaluation (D&E) costs for the first and second repositories are included, and are taken from Table 1 of the Fee Adequacy Analysis(5). The total of $7.5 billion is assumed to be divided into $4.0 billion for the first, and $3.5 billion for the second civilian repositories.

With respect to the D&E costs, there is some debate as to the extent to which a Defense waste-repository has to undertake the full and complete NWPA-specified process of site nomination, recommendation and final selection, and the related extensive public participation process. However, a Defense repository must be licensed by the NRC and this involves the extensive characterization of three sites, plus the public participation that is inherent in the NRC licensing process. It is virtually impossible to predict the net Defense D&E cost savings that would arise from the procedural differences between the Defense and Commercial siting and licensing process. However, because of the nature of the NRC licensing process, including its established and well utilized provisions for public participation, the Defense and Commercial D&E costs for the Defense and first Civilian repositories are judged to be essentially identical at $4.0 billion.

The cost results are summarized as follows:

	Total Costs, $-million (1984)					
	Waste Pkg	Disposal	Subtotal	D&E	Total	%
Defense-only	1,410	2,940	4,350	4,000	8,350	32
Commercial 1	1,600	4,100	5,700	7,500	17,700	68
Commercial 2	1,150	3,350	4,500			
Totals			14,550		26,050	100
Combined 1	2,640	4,950	7,590	7,500	20,000	
Combined 2	1,350	3,560	4,910			
Totals			12,500		20,000	
% Saving over Separate Repositories:			14%		23%	

The basic conclusions of the above are 1) that both the Defense and Civilian programs will save over 20% of common costs by combining repository operations, and 2) that the defense repository costs would be approximately one-third of the shared portion of the combined repositories program costs.

It is worthwhile to understand the basic reasons for the general level of defense waste disposal costs relative to commercial costs. In this regard, it has been noted (1) that defense wastes have only 15% of current total radioactivity and this level will be down to 3% by the year 2000. Considered in isolation, these facts can create the impression that defense waste disposal costs should be small, relative to commercial costs. On the other hand, the waste forms are significantly different and this is quantified by the more than 22,000 large defense waste packages as compared to the less than 28,000 smaller commercial waste packages anticipated to originate through 2020. By this particular measure, defense wastes are 45% of total wastes. The key point is that it is costs that are being shared and particular physical characteristics are important to cost sharing only to the extent that they influence costs. The basic reasons that the single Defense repository program has evaluated costs that are about one-third of total separate-repository program costs are 1) the Development and Evaluation (D&E) cost is about $4 billion per repository and is essentially independent of waste characteristics, 2) the large number of defense waste packages which offset the real cost savings from the lower thermal output of defense wastes, and 3) the significant level of fixed repository capital and operating costs such as surface facilities, shafts, underground development and ventilation, that are largely independent of waste characteristics and amounts. In summary, the principal source of the savings from a combined Defense-Civilian, 2-repository program as compared to a separated 3-repository program is the avoidance of D&E costs for 1 repository, amounting to about $4 billion, plus the avoidance of fixed facility costs, amounting to an additional $2 billion.

Once the costs of the combined repository program are evaluated, and the defense portion allocated, the amount and timing of defense waste fees can be determined. First, the margin ratio of current Commercial fees over current Commercial costs must be evaluated. This margin ratio of fees-to-evaluated-costs applies to both repository and non-repository costs in the Commercial program but it applies equally to all costs. It is therefore appropriate and equitable to apply this same ratio to evaluated Defense costs in order to determine Defense waste fees. Continuing to use the above example for illustration, the Commercial portion of the combined repository program costs is 68% of $20 billion, or $13.6 billion. To this must be added other program costs which are specific to Commercial wastes, such as spent fuel transport, and spent fuel storage R&D. If these added costs were $5.2 billion, the total evaluated cost would be $18.8 billion. The fee margin is determined by ratioing expected commercial fee revenue at 1 mill/kwh to this total evaluated cost. The EIA No-New-Orders Reference case, on which the spent fuel output estimates are based, shows a revenue of about $22.5 billion. This is then ratioed over the total evaluated commercial program cost to determine the overall fee margin, 1.2 in this example. This same margin would be applied to the defense waste costs, as follows: Evaluated defense costs are 32% of $20 billion or $6.4 billion. Applying the 1.2 fee margin to this yields $7.7 billion as the defense fee base. If this is allocated on a per-package basis, the average per-package cost is about $345,000 over 22,450 waste packages. Assuming, hypothetically, that the pre-1983 waste inventory of Savannah River, Hanford and Idaho wastes is the equivalent of 5000 packages, and the wastes which will make up the remaining 17,450 packages are being produced over the remaining 38 years through 2020 at an average rate of 460 packages/yr, an immediate one-time payment of $1.7 billion and an annual average payment of $158 million would be indicated for defense wastes. It should be noted that although the fee margin ratio is sensitive to the particular waste management and cost scenario chosen for the evaluation, when it is used with an already-fixed Commercial unit fee to develop the Defense fee, the latter is not particularly sensitive to the cost evaluation scenario. In fact, to the extent that defense and commercial costs and waste amounts maintain relative relationships across various scenarios, the per-unit defense waste fee is insensitive to the evaluation scenario. It is therefore desirable to select one or more reasonable scenarios for evaluation of an equitable defense fee, but it is not anticipated that the defense fee will be significantly influenced thereby. The two most sensitive factors to the results of the evaluation appear to be 1) the relative amounts and characteristics of the two wastes, and 2) the costs of those parts of the repository where waste amounts and characteristics have the largest influence on costs.

CONCLUSIONS AND RECOMMENDATIONS

The principal conclusions and recommendations of this document are:

1. Equivalence in the sharing of costs of nuclear waste disposal between the Defense and Civilian sectors should require that both sectors pay fees based on the same principles that have already been established and implemented for the Civilian sector.

2. The evaluated costs of separated and combined repository programs provide a sound basis for determining and sharing the cost savings that will result from combined repositories. It is recommended that the fraction of combined-program costs borne by each sector be proportioned to the evaluated costs of separate repository programs. This results in sharing the cost savings in proportion to cost obligations.

3. An illustrative example of Defense waste cost sharing has been provided herein, based on waste and cost data that are believed to be reasonable. This preliminary analysis indicates that the appropriate level of Defense waste cost sharing is in the range of one-third of combined-repository program costs. It is the principal recommendation of this document that the level of Defense waste cost sharing be established with greater rigor and precision than was appropriate for this preliminary scoping document.

REFERENCES

(1) U.S. Department of Energy, "An Evaluation of Commercial Repository Capacity for the Disposal of Defense High Level Waste", (Draft), DOE/DP-0020, July 1984; (Final) DOE/DP-0020/1, June 1985

(2) U.S. Department of Energy, "The Defense Waste Management Plan", DOE/DP-0015, June 1983

(3) U.S. Department of Energy, Energy Information Administration, "Projections of U.S. Nuclear Power Plant Capacity, Generation, and Spent Fuel Discharges, 1984-2020", SR-NAFD-84-01, March 1984

(4) U.S. Department of Energy, "Mission Plan for the Civilian Radioactive Waste Management Program", (Draft), DOE/RW-0005, April 1984; (Final) June 1985

(5) U.S. Department of Energy, "Nuclear Waste Fund Fee Adequacy: An Assessment", DOE/RW-0020, February 1985

(6) Battelle Memorial Institute, "WADCOM: A Waste Disposal Cost Model", ONI-6, June 1983.

Senator HECHT. Mr. David Berick.

STATEMENT OF DAVID M. BERICK, DIRECTOR, NUCLEAR WASTE PROJECT, ENVIRONMENTAL POLICY INSTITUTE AND THE SIERRA CLUB

Mr. BERICK. Thank you, Mr. Chairman. I am David Berick with the Environmental Policy Institute. I am here today on behalf of not only my own organization, but the Sierra Club. I thank you and Senator Domenici and other members of the subcommittee for the opportunity to testify and also for your personal diligence in staying here this late in the day and letting us make our statements.

Senator HECHT. Quite frankly, this is one of the biggest issues in America today, and certainly one of the biggest issues of our State. And so for that, I've always got time.

Mr. BERICK. Mr. Chairman, I want to summarize my statement with the understanding that it will be included in the record.

Senator HECHT. Your full statement will be in the record.

Mr. BERICK. I want to touch first on a legal issue and then get into some substantive issues where I will try to stay away from the legal issues.

Senator HECHT. If you're talking about legal issues, keep it to 5 minutes, OK? [Laughter.]

Mr. BERICK. I will be glad to.

The first issue is the whole question about the mission plan and why we're here today. The mission plan is to provide an information basis sufficient to permit informed decisions, and that's a statutory requirement in the act, and it's also a statutory requirement that the mission plan be submitted to the appropriate committees of Congress before it becomes effective.

Congress is not required to approve or disapprove that plan according to the statute.

Therefore, we see the basic question this committee is to whether or not, in general, that document is a sufficient basis for the Department to go ahead. DOE has also upped the ante a little bit, by saying in other forums, for example, its final issuance of the guidelines and before the Nuclear Regulatory Commission, that it views its submission of the mission plan to Congress as being dispositive of questionable interpretations or controversial interpretations like the section 114(f) issue that we've heard so much about.

We are especially troubled by that because by suggesting that submission of the mission plan and the 30-day review process before Congress may constitute some legally binding commitment, we are unsure what that will ultimately mean in the courts, either what it holds us to, because of things we didn't comment on, but it holds you to in the sense that you may not know all of the things in here in all the fine print.

So we are unhappy with the idea that the Department of Energy has placed all of us in this unfortunate predicament about suggesting that there's an additional level of importance to the mission plan.

Quickly, we suggest to the committee not that it approve or disapprove the plan, but that it remand the plan back to the Department of Energy, because we think that there are a number of areas where what's in the plan doesn't meet the fundamental criteria of information sufficient to make informed decisions.

Included in those are things like its description of the consultation and cooperation process, which we just heard about from the previous panel. It's not that what's in there contradicts what's in the act; it comports with what's in the act, but we don't believe it accurately reflects the practice of DOE's relationships with the States.

Similarly, there are questions about things like the monitored retrievable storage issue. Not that DOE has inaccurately stated what its intention is, but because there was such a significant change in the final plan from what was originally proposed in the draft. The comments, including comments by other Federal agencies really aren't relevant to what the final plan contains, so we suggest in a number of areas in our statement that the plan is substantively inadequate and falls short of the requirements of the act.

I want to cover a couple of policy issues that we talked about today. The 114(f) issue is not important just legally, but it's important substantively in that DOE and the NRC had an agreement about when this decision would be made. And in addressing this question, I think it's important that the committee understand that in altering that agreement, we're going to be saying some things about that relationship to the NRC and the DOE and what their agreements mean, and how they can be altered.

Another thing that we've heard about today is the 1998 date and what that means, and we have long held that DOE's commitment to accepting spent fuel in 1998 and its keying its repository startup to 1998, in spite of all evidence that the rest of this schedule is slipping, really gets to the heart of what's falling short in the DOE program.

That 1998 date is really becoming, I think, the downfall of the program. It's becoming the downfall in terms of public credibility because it uses that deadline to do things like cut comment periods short. And it also distorts decisions that are being made in the program. For example, DOE now proposes to do a two-phase repository with an initial startup of a small scale nature in order to meet that early date.

What that really means, though, according to DOE's own estimates, is that in the first 8 years of operation, theoretically when we're interested in taking as much spent fuel off the hands of the utilities as we can, we're actually going to be accepting something like 30- to 40-percent less spent fuel for disposal in that repository than we would otherwise be able to do.

Again, things like the MRS may be necessitated by holding to that date. Even the size of the MRS is being skewed by that policy commitment. We're going to be looking at a perpetual inventory for something like 15 or 16 years in the MRS with 13,000 tons of material.

The way we're looking at designing the MRS again is being skewed by these policy decisions that are made. Regardless of where all the lawyers are in looking at the detailed analysis, we will argue our side; others will argue theirs. I think it's important for the Congress, especially this committee, to look carefully at what the policy implications are for some of these interpretations and whether or not the Department of Energy is headed in the overall correct direction, not just what fine points of lawyers' pens say, but the overall policy implications of these decisions.

Thank you. I'll be glad to answer any questions.

[The prepared statement of Mr. Berick follows:]

ENVIRONMENTAL POLICY INSTITUTE

STATEMENT OF DAVID M. BERICK, ENVIRONMENTAL POLICY INSTITUTE

ON

DEPARTMENT OF ENERGY FINAL MISSION PLAN FOR THE CIVILIAN
RADIOACTIVE WASTE MANAGEMENT PROGRAM

BEFORE

THE SUBCOMMITTEE ON ENERGY RESEARCH AND DEVELOPMENT
SENATE COMMITTEE ON ENERGY AND NATURAL RESOURCES

ON BEHALF OF ENVIRONMENTAL POLICY INSTITUTE AND SIERRA CLUB

SEPTEMBER 12, 1985

On behalf of the Environmental Policy Institute, I want to thank Chairman Domenici and the other members of the Subcommittee for the opportunity to testify today on the Department of Energy's(DOE) Final Mission Plan for the Radioactive Waste Management Program.

The Final Mission Plan(Mission Plan), which was due 14 months ago, is required of the DOE by Sec. 301 of the Nuclear Waste Policy Act(NWPA). The purpose of the plan is to

> "provide an informational basis sufficient to permit informed decisions to be made in carrying out the repository program and the research, development, and demonstration programs required under this Act."
> (Sec. 301(a) of the NWPA)

DOE has also included an overview and description of its current program plans. The Secretary may not use this plan as a basis for making decisions until after it has been submitted to the appropriate congressional committees for 30 days during which Congress has been in session.

Congress is not required to approve or disapprove the plan nor, in our view, could Congress be expected to do so in such a short period of time. Without embarking on a discussion of the legislative veto, it is also important to note that any action less than a joint resolution may not constitute a constitutionally valid approval or disapproval of this plan even if the committees of jurisdiction attempted to approve or disapprove the Mission Plan.

Unfortunately, the DOE has, in other forums, suggested that submission of the Mission Plan to the Congress will somehow constitute Congressional review and ratification of its content, including a number of questionable statutory interpretations of the NWPA. For example, the DOE has repeatedly stated in hearings before the U.S. Nuclear Regulatory Commission(NRC) that Congressional review of its interpretation of Sec. 114(f) of the NWPA, included in the Mission Plan, and the question of the "preliminary determination of suitability" of alternative sites will be dispositive of that interpretation.

We reject the idea that the submission of the Mission Plan to Congress could be, or was intended by the authors of Sec. 301 to be, a forum for reinterpretation of the NWPA or for creating "after the fact" legislative history. We regret that DOE has chosen to use the forum of the Mission Plan for this purpose. It is extremely unfortunate that DOE's action has placed this and other subcommittees in the unfortunate predicament of giving credence to DOE's intentions and has compromised their ability to exercise their independent oversight.

As for the content of the Mission Plan, in general, we suggest that there are four basic catergories of information and interpretations of the DOE program. The first three of these categories contain grounds for Congress to remand the plan to DOE. These general categories are:

1) Statements or information that seem to comport with the NWPA, but which have little to do with the reality of DOE's operation, such as the descriptions of "consultation and cooperation"(C&C) relationships between DOE and states and Indian tribes, but are not true in practice. DOE's approach to C&C seems to be "we, DOE, consult; you, the states and Indian tribes, cooperate!"

2) Statements or information that is inaccurate or of questionable legal validity, such as DOE's interpretation of Sec. 114(f) or its reading of Sec. 141 to accomodate a 15,000 metric ton integrated Monitored Retrievable Storage(MRS) facility.

3) Statements or information that may be accurate, such as DOE's stated MRS policy, but have not been the subject of public or federal agency comment as required by Sec. 301 because the policy was entirely altered after the issuance of the draft.

4) Statements or information that comport with NWPA and accurately reflect the conduct of the program.

While we do not mean to suggest here that the Mission Plan contains a predominant proportion of statements or information that are inconsistent with the requirements of the NWPA for the Mission Plan, we do believe there is a sufficient number of these concerns to require that the NWPA be remanded to DOE.

ISSUES OF SPECIAL CONCERN

Given the limited time available at this hearing there are five policy issues we wish to highlight for the Subcommittee: the Sec. 114(f) issue, the DOE's commitment to accept waste in

1998 or earlier, DOE's MRS program, DOE's site selection and repository development schedules, and DOE's failure to incorporate procedures and protocals for independent scientific and technical review and peer review.

DOE's Interpretation of Sec. 114(f) and Agreement with NRC

DOE has apparently decided to break a 1984 agreement developed with the NRC as part of the NRC's concurrence in the site selection guidelines concerning interpretation of Sec. 114(f) of the NWPA and when a "preliminary determination of suitability" will be made to ascertain what sites will be considered as alternatives in the preparation of DOE's environmental impact statement on final site recommendation. The NRC/DOE agreement concluded that this determination would be made after site characterization.

While I would be happy to discuss this matter at length, I think that there are three basic points to be made. First, DOE and NRC did have an agreement on when this determination would be made and DOE's action has severely compromised its own credibility and has put the NRC's credibility as an independent regulatory agency overseeing the DOE waste program in jeopardy. Second, I do not believe that it is credible for DOE to prepare a final environmental impact statement(EIS) for either the first or subsequent repositories based upon alternative sites that are known to be unsuitable at the time the EIS is prepared. Third, it is also not credible for the DOE, based upon those few guidelines that do not require characterization and do not address any geological considerations and the incomplete data that applies to those guidelines, to make a preliminary determination as it now intends.

It is little wonder that DOE expects to be sued on this issue early next year when it intends to make these determinations. DOE officials have done little to forestall this litigation, have on occasion openly encouraged it, and have blatantly attempted to manipulate the NRC to gain a better record upon which to litigate.

DOE's 1998 Nuclear Waste Acceptance Commitment

It is not my intent here to get into a legal argument about how Sec. 302 should be interpreted the NPWA should be interpreted. We have previously provided the Subcommittee with an interpretation which we believe is sound that finds that DOE need not begin to accept waste until the repository is in operation. The operational date is stated to be January 31, 1998, but in our view it is the operation of the repository that triggers DOE acceptance and not the date itself.

What I would like to do here is expand upon the practical consequences of DOE's stated commitment to accept commercial spent fuel and high-level waste in January, 1998 and how that commitment is distorting the DOE high-level waste program, as well as justifying its new commitment to take spent fuel even before 1998.

First, DOE's commitment to take spent fuel and high-level waste in significant quantities prior to 1998 in the face of major schedule slippages in NWPA deadlines(ranging from the delay in issuing the site selection guidelines by 17 months to its expectation that it will be 4 years late in recommending a final site) suggests that DOE is placing its commitment to the nuclear industry over that of other parties to the NWPA. These other parties include states and Indian tribes and the public who are deprived of procedural rights, such as realistic comment periods, because DOE "must meet its NWPA deadlines." An example of this is the 90 day comment period, stretching over the Christmas holidays, for comment on nine draft environmental assessments and the formal denial of requests for extensions.

The 1998 acceptance policy compromises taxpayers, who will pay for the commingled defense waste disposal, and those states that hold high-level defense waste, and are told that DOE's acceptance of defense waste will not be allowed to "interfere" with acceptance of commercial spent fuel.

The 1998 acceptance policy even compromises the very nuclear utilities it is alleged to benefit. For example, in order to achieve 1998 repository start-up, DOE intends to build the repository in two-phases; an initial small-scale acceptance phase to meet the 1998 date and then the balance of the repository. By DOE's own reckoning, this approach will delay full-scale repository operation by 20 months. As a result, DOE will be able to emplace only 60-70% of the amount of spent fuel during the first eight years as it would be able to if construction schedule did not include the small-scale increment. In a program that avows that it is reducing costs and getting spent fuel off of the utilities' hands, this incremental approach seems counterproductive.

Finally, the 1998 acceptance policy virtually mandates the construction of an MRS since there can be no assurance that DOE will have the repository in operation to accept spent fuel. Even if one accepted DOE's premise that the MRS was simply intended to operate as a "head-end" receiving, packaging, and handling facility for the repository, this function would not necessitate the 15,000 metric tons of storage capacity and construction schedule now planned for the facility and related costs.

The MRS storage capacity, which is actually intended to be utilized beginning in 1996, is principally to support the DOE acceptance policy. For example, the MRS, as a truly "head-end" facility, would not need to reach full operational handling capacity until the repository reached that same level. Thus, full MRS operation is not needed until 2003, but DOE plans this level of operation five years earlier in 1998. Because the MRS receives spent fuel in advance of repository operation and in excess of repository emplacement capability, it operates with a perpetual inventory of 13,300 metric tons, or more than for years worth of repository operation, for fifteen years before it begins to be worked off.

It is obvious to us that the 1998 acceptance policy is the single most significant determining factor of the entire DOE high-level waste program. In our view, the 1998 acceptance policy is seriously distorting the function of that program and driving it to adopt entirely counterproductive policies.

DOE's Monitored Retrievable Storage Program

As noted earlier, the current MRS program is largely the result of two related DOE policies; 1998 repository start-up and a desire to accept significant amounts of spent fuel as early as possible. While DOE has made numerous arguments for an "integrated MRS," or what it calls the "improved performance system," we believe that DOE lacks the data to reach its conclusion that the MRS, as an intergrated facility is either necessary or an "improvement."

For example, DOE's reliance upon an analysis that MRS reduces "shipment miles" as an indicator of improved performance simply does not address the question of whether it also reduces public and occupational risks. Ton/miles for the whole transportation system, or put another way, the distance individual fuel assemblies will actually travel, will actually increase with an MRS as will the number of times that fuel assemblies are handled. The transportation impacts on the area immediately surrounding the MRS, so slated for the former Clinch River Breeder Reactor site in Tennessee, will also be many times greater than contemplated on any part of a repository only system because of the MRS will handle shipments of all, or almost all, fuel bound for the repository twice; receiving and transshipping. Note that DOE has not resolved whether West Coast spent fuel will be sent to the MRS for packaging and storage nor has it resolved whether the MRS will also be used to service the second repository.

We believe that DOE has made an unwarranted change in its approach to the MRS over that proposed in the draft Mission Plan in 1984, i.e. an MRS as a contingency in case of significant delays in the repository program. Because this change was made after release of the draft plan and after the close of the comment period, many effected parties, including pertinent federal agencies were not able to comment on this policy before its inclusion in the Mission Plan.

We believe that the earlier DOE approach is not only more sound from a policy perspective, but that it is more consistent with the legislative language and history of the NWPA. Further, we do not believe that the "information" contained in the Mission Plan to support the new MRS policy is "sufficient to "permit decisions to be made" and the requirements of Sec. 301 of NWPA.

DOE's Site Selection and Repository Development Schedule

As suggested earlier, much of DOE's site selection and repository development schedule is driven by DOE's unbending adherence to the 1998 target date for repository operation. DOE is extremely selective and arbitrary in its use of this deadline and others in the Act. DOE now states that it will not meet any other deadline except for the 1998 target date. The effect is to allow DOE to use the 1998 date when it suits its purposes, such as to limit comment periods, and to ignore it when it does not suit its purposes such as its delayed release, by five months, of its site selection guidelines, after NRC concurrence virtually assured no further changes could be made and that the preamble would be descriptive and not interpretive.

Similarly, DOE has adopted a set of site selection guidelines and a site selection process that allow it to make recommendation decisions for site characterization, as well as the "preliminary determination of suitability" under Sec. 114(f) with none or incomplete data on many critical factors that could be resolved without sinking the large diameter exploratory shafts. This would not only establish greater public confidence and DOE credibility, but it would forestall a wasteful expenditure of hundreds of millions of dollars on an unsuitable site. Even if one accepts the DOE contention that it need not have three suitable sites after characterization , DOE must still have at least one for each repository!

The time required for gaining this additional data and the conflict with the need to meet the 1998 date are often cited by the DOE as the reason for this approach. As we have often stated before this subcommittee, DOE's questionable reliance upon sites chosen before the NWPA was enacted and selected principally on the basis of land use , notably the Nevada and Washington sites, are similarly attributable to DOE's efforts to meet 1998.

The DOE fixation with the 1998 repository/waste acceptance date is simply setting the high-level waste program up for failure. Section 2 of Volume 1 of the Mission Plan shows that every contingency plan, and indeed DOE's whole approach to contingency planning, is focused on what happens to DOE's ability to accept spent fuel if the first repository is delayed beyond 1998. While DOE examined a variety of potential disruptions that might trigger the need for a genuine contingency plan in developing its reference repository development schedule, DOE did not develop contingency plans to address those eventualities. Instead, DOE chose reference schedules that ignore inevitable events, such as the need for additional in-situ data during site characterization, because it would result in missing the 1998 date.

We believe that DOE's effort to set site selection and repository schedules based on the 1998 date is counterproductive. There is also a more fundamental point to be made here; that doctrinaire adherence to the 1998 for all planning purposes is suicidal. DOE will certainly fail in meeting that date, or any other date, if it does not allow reality to intrude into its planning process.

Need for Independent Scientific and Technical Review

We have had a longstanding concern over the lack of independent scientific and technical review of DOE's site selection and data collection activities and the role of DOE contractors in data collection and analysis. The lack of such controls was highlignted in 1983 by the serious inadequacies in the DOE's site characterization plan for the Hanford site. In some cases, such as the final screening of the seven first round salt sites, peer review has apparently been provided by employees of the DOE contractor.

The Sierra Club and other commenters, including the Nuclear Regulatory Commission, pointed out that the draft Mission Plan was seriously deficient in explaining how DOE would deal with these problems.

DOE's response to these concerns in the Final Mission Plan is entirely unsatisfactory. For example, in response to comments concerning DOE's much touted "performance assessment peer-review panel", DOE stated that:

> "The DOE is pleased that there is such an interest interest in the peer-review panel, but feels that the level of detail asked for in the comments is not appropriate for the Mission Plan. (Vol. II, p. 173)

Conclusion

For these and other reasons which we have not elaborated upon because of the limited time, we respectfully submit that the Final Mission Plan(DOE/RW-0005) does not constitute an "informational basis sufficient to permit informed decisions" and it should be remanded to the DOE.

Thank you again for the opportunity to testify. We would be pleased to answer any questions members of the Subcommittee may have.

Senator **Hecht**. Thank you all very much.

Commissioner Dondero, I just want to allude to one point you brought up for the record for Clark County when you mentioned the road over Hoover Dam.

Ms. **Dondero**. Yes.

Senator **Hecht**. That has been a terrible concern and that is one of the—it is just not nuclear waste, but toxic waste and so on and so forth that goes on that road. It's a risky road, and that is the reason it was included in the legislation I introduced last year on Hoover Dam. We have provisions for a road, and I think that we should work together and get that road completed, a new road, because it is very, very dangerous and also there is a possibility this could come by rail.

In conclusion, I would like to remind you what Senator Bennett Johnston said this morning about how appropriate these hearings are. I think this hearing today has probably done more to bring out more facts and less hysteria than anything I've seen since I've been a U.S. Senator.

And, Mr. Rusche, you've had somewhat of a hostile group opposing you, and you have the guts to stay here and answer the questions. And whether people agree with you or not agree with you, I think everyone is very complimentary of the fact that you stayed here and you're the only official of your rank that I know that's ever gotten here in the morning early and left after the hearing was over. So I certainly want to compliment you and your staff.

And I want to thank all of you who have come long distances to testify. This is just the beginning of getting true word out, getting different ideas out, concerns, problems, and I can assure you this committee will work with you.

Just a second. I have a note here. Let me just see what it is. Oh, yes. I have to request that all State and public witnesses respond later to written questions, and it will be a two-way street. We will get any answer you want. And we'll ask you to provide us answers.

The day is late—yes, Thalia?

Ms. **Dondero**. I just wanted to add one other statement to the road that you're talking about, building a new road. I hope that talks about a new bridge across the river.

Senator **Hecht**. Excuse me. It's over a river, so I assume you have to have a bridge.

Ms. **Dondero**. Well, I just wanted to make that part of the record. Thank you.

Senator **Hecht**. That is part of the provision; yes. It is over a river, unless you want to build a tunnel, and I don't think we want to build a tunnel.

Ms. **Dondero**. OK.

Senator **Hecht**. No; we do need a new road. The road was built—let's see, in 1920, late 1920's, and was finished in the early 1930's. Is that correct?

Ms. **Dondero**. 1931.

Senator **Hecht**. One lane, and if you remember during the Second World—you were too young, but I remember. During the Second World War when we used to have military escorts to cross over the bridge.

Ms. **DONDERO**. I know it. I showed my time when I called it Boulder Dam and I wanted to say that it is Hoover Dam and it's in its 50th anniversary.

Senator **HECHT**. Which I will be there, and I'm hoping the President is going to be there, too.

Thank you all for appearing.

[Whereupon, at 4:07 p.m., the hearing was adjourned.]

APPENDIXES

APPENDIX I

Responses to Additional Committee Questions

Department of Energy
Washington, DC 20585

November 1, 1985

Honorable Pete V. Domenici
Chairman, Subcommittee on Energy
Research and Development
Committee on Energy and Natural Resources
United States Senate
Washington, D.C. 20510

Dear Mr. Chairman:

On September 12, 1985, Ben C. Rusche, Director of the Office of Civilian Radioactive Waste Management, appeared before the Energy and Natural Resources Subcommittee on Energy Research and Development to discuss the Department's Mission Plan for the Civilian Radioactive Waste Program.

Following that hearing, you submitted written questions for our response to supplement the record. Enclosed for your information are the answers to those questions, which also have been sent directly to the Committee staff.

If you have any questions, please have your staff call Ingrid Nelson or Cathy Hamilton on 252-4277. They will be happy to assist.

Sincerely,

Cathy J. Hamilton
for Robert G. Rabben
Assistant General Counsel
for Legislation

Enclosure

QUESTIONS AND ANSWERS
RELATING TO SEPTEMBER 12, 1985
HEARING BEFORE THE
COMMITTEE ON ENERGY AND NATURAL RESOURCES
SUBCOMMITTEE ON ENERGY RESEARCH AND DEVELOPMENT
U.S. SENATE

WITNESS:
BEN C. RUSCHE
DIRECTOR, OFFICE OF CIVILIAN RADIOACTIVE WASTE MANAGEMENT
UNITED STATES DEPARTMENT OF ENERGY

Question 1: Please describe the sequence of events and the rationale that led you to your final interpretation of the timing of the preliminary determination of site suitability.

Answer: We had been aware for sometime that there were different interpretations for the timing of the preliminary determination of site suitability. Internally, we reviewed the provisions of the Act for guidance on this matter and concluded, based on our review of the Act, that the timing for the preliminary determination is left to the discretion of the Secretary. We further concluded, from our review of the Act, that the determination should be made at the time of recommendation of sites for characterization. A full development of this position is noted in a letter to Chairman John D. Dingell. A copy is attached.

Department of Energy
Washington, DC 20585

RW

AUG 29 1985

Honorable John D. Dingell
Chairman
Committee on Energy and Commerce
House of Representatives
Washington, D.C. 20515

Dear Mr. Chairman:

Thank you for your letter of July 26, 1985, providing me with your views regarding the timing of the preliminary determination referred to in section 114(f) of the Nuclear Waste Policy Act of 1982 (the Act). As you noted, the Mission Plan specifies that this preliminary determination will be made by the Secretary at the time that he recommends three sites to the President for detailed site characterization. In your letter you expressed a different view of when the preliminary determination should be made, and although it appears we do not agree, I appreciate this opportunity to further explain the Department's position.

I think the one thing that we may agree on is that the Act does not specify when the preliminary determination must be made. As you are aware, there continues to be a variety of views on the appropriate timing. Recognizing that the timing is not specified in the Act and that there are alternative points in the process when the preliminary determination could be made, it is clear that the Act left the precise timing of this determination to the discretion of the Secretary. The decision on the timing that is expressed in the Mission Plan reflects a thorough consideration of alternative points in time that the preliminary determination could be made, including the alternatives discussed in your letter.

In explaining why it was decided to make the preliminary determination at the time of recommending sites for characterization, let me first note that, under the Act, a preliminary determination must be made on a site that is at the time of selection "not unsuitable," i.e., it is suitable based on the information, data, and analysis then available. Further, the Act requires that the preliminary determination be made on three candidate sites. As discussed in the Mission Plan, the purpose of the preliminary determination is to ensure the reasonableness of the alternate sites considered--to add assurance that the three sites selected for characterization have a high potential for being found suitable for development as a repository. This preliminary determination will add confidence that the three alternate sites considered in the environmental impact statement required by section 114(f) of the Act will, in accordance with the National Environmental Policy Act, constitute reasonable alternatives. The requirement of the Act to select three sites for characterization provides a considered balance between the need to assure technical quality and safety in the finally selected repository site and the need to proceed expeditiously and in a cost-effective manner.

The above purpose is served by having the recommendation of sites for characterization based on a preliminary determination of suitability for development as repositories. Furthermore, it gives meaning to an evaluation that is required by section 112(b)(1)(E) to be included in the environmental assessments. Under that section, the environmental assessments that accompany site nominations are to include, among other things, (1) an evaluation as to whether the site is suitable for site characterization and (2) an evaluation as to whether the site is suitable for development as a repository. Each of these evaluations is to be based on the guidelines promulgated under section 112(a). For the nominated sites, the Secretary will use the first evaluation to support the required finding that those sites are suitable for characterization. Subsequently, for recommendation, he will be able to use the second evaluation and any other available information to make the "preliminary determination" referred to in section 114(f) that the recommended sites are suitable for development as repositories. These second evaluations in the environmental assessments would serve no purpose unless they are used to support a preliminary determination for each of the recommended sites.

In conclusion, the Act left the timing of the preliminary determination to the discretion of the Secretary, and making this determination at the time of recommendation is both reasonable and in compliance with the Act. I appreciated receiving your views on this matter and the opportunity to explain the position taken in the Mission Plan.

Sincerely,

Ben C. Rusche

Ben C. Rusche, Director
Office of Civilian Radioactive
Waste Management

cc: The Honorable Nunzio J. Palladino
The Honorable Thomas M. Roberts
The Honorable James K. Asselstine
The Honorable Frederick M. Bernthal
The Honorable Lando W. Zech, Jr.

Question 1.a: It is my understanding that, as a result of the June 1984 NRC meeting on their concurrence to DOE's siting guidelines, DOE agreed to delete reference to this issue in the siting guidelines, and to instead include this discussion on the Mission Plan. Am I correct? Was this an indication that the NRC intended to remove itself from this issue?

Answer: You are correct that the Department agreed to delete language relating to the preliminary determination from the guidelines and instead specify that timing in the Mission Plan. This matter was addressed in the Mission Plan, Volume II, Record of Responses, a copy of the pertinent part of which is attached. In regard to the NRC intentions, I cannot make a judgment as to whether or not they intended to remove themselves from this issue.

NRC OBJECTION 5

Statement of Objection

"The Mission Plan should be revised to reflect the recent agreement between DOE and the Commission on the timing of the preliminary determination under Section 114(f) of NWPA.

"At the June 22, 1984 Commission meeting on the Commission's concurrence decision on the DOE siting guidelines, the Commission and DOE agreed that the preliminary decision required by Section 114(f) of the NWPA should be made after the completion of site characterization and not at the time of site recommendation for characterization. The Mission Plan should be revised accordingly to reflect this agreement."

Response

Section 114(f) of the Act provides that the environmental impact statement (EIS) for the first repository is to consider as alternative sites those sites with respect to which "(1) site characterization has been completed under section 113; and (2) the Secretary has made a preliminary determination, that such sites are suitable for development as repositories consistent with the guidelines promulgated under section 112(a)." The Act does not specify when in the siting process the "preliminary determination" is to be made, but by specifying that this determination by the Secretary was to be preliminary, the Act recognized the possibility of a site's subsequently being found by the Secretary to be unsuitable.

At the June 22, 1984, Commission meeting on the Commission's concurrence decision on the DOE siting guidelines, the DOE agreed to delete language from Section 960.3-2-3 of the guidelines related to the timing of the preliminary determination required under Section 114(f) of the Act and instead to specify that timing in the Mission Plan. Therefore, in accordance with that agreement, Section 3.1 of Part I in the Mission Plan specifies the timing of the preliminary determination. It says that the preliminary determination is to be made at the time the Secretary recommends three sites to the President for site characterization.

While discussions in that meeting may have indicated a further agreement relative to the timing of the preliminary determination, the DOE has concluded that a preliminary determination made after site characterization, as suggested in the Commission's objection, would have the effect of requiring that three sites be found suitable at the end of site characterization. At the June 22 meeting the DOE made clear its understanding that three suitable sites were not required at the end of site characterization. Requiring three suitable sites at the end of site characterization would necessitate the DOE's characterizing more than three sites or accepting the risk of large schedule and cost uncertainties should one of the initial three sites be found unsuitable. The Act does not require that more than three sites be characterized, but rather anticipates that the repository site would be selected from among the three characterized and that the repository would be developed in a timely fashion.

The purpose of the preliminary determination is to ensure the reasonableness of the alternative sites considered. Although other points in the siting process were considered. the DOE has concluded that the above purpose is served by having the preliminary determination made at the time of recommendation. This timing is both reasonable and in compliance with the Act.

The Secretary will have at that time the evaluation to support a preliminary determination for each of the three recommended sites. Under Section 112(b)(1)(E), the environmental assessments that accompany site nominations are to include, among other things, both (1) an evaluation as to whether the site is suitable for site characterization and (2) an evaluation as to whether the site is suitable for development as a repository. Each of these evaluations is to be based on the guidelines promulgated under Section 112(a). At the time of nomination, the Secretary will use the first evaluation to support the required finding that the nominated sites are suitable for characterization. Subsequently, at the time of recommendation, he will be able to use the second evaluation and any other available information to make the "preliminary determination" referred to in Section 114(f) that the sites are suitable for development as repositories.

Question 1.b: This issue is a contentious one, with involved parties polarized as to the proper interpretation of the Act. In the absence of any formal clarification from Congress, whose opinion would prevail on this matter?

Answer: The Act leaves the precise timing for the preliminary determination to the discretion of the Secretary.

Question 1.c: Supposing that your interpretation -- and that of many Senators on this Committee -- did not prevail. What would be the impact, in terms of cost and schedule, of a requirement that Three Perfect Sites emerge from the site characterization?

Answer: If the Department is required to make a preliminary determination of suitability after site characterization, with the attendant implication that all three sites must be suitable, there is the potential for a significant impact on the program. Basically, the Department would either have to characterize more than three sites or accept the risk of large schedule and cost impacts should one or more of the initial three sites be found unsuitable. It is estimated that the cost for characterizing a site is between $500 Million and $1 Billion, and would require 3 to 5 years to complete.

Question 1.d: What are the NEPA requirements in terms of alternative sites?

ANSWER: The Council on Environmental Quality regulations implementing NEPA require Federal agencies to evaluate all reasonable alternatives in an Environmental Impact Statement (EIS) and to discuss alternatives that were considered and eliminated from detailed study. It does not require an EIS to contain an evaluation of a specific number of alternatives to the proposed action.

In regard to alternative sites, the NWPA in Section 114(f) states that ". . . For purposes of complying with the requirements of the National Environmental Policy Act of 1969 (42 U.S.C. 1321 et. seq.) the Secretary shall consider as alternate sites for the first repository . . . sites . . . which (1) site characterization has been completed. . . and (2) the Secretary has made a preliminary determination that such sites are suitable for development as repositories . . . ."

Question 2.a: The reference schedule for the first repository allows 27 months for the licensing activities to be completed, yet the Act requires a 3-year period, and furthermore, NRC feels that 3 years is the minimal period it would need to carry out its duties. Have you discussed the 27-month period with the NRC in any detail?

Answer: There have been several discussions with the NRC at the staff level regarding a 27-month licensing period. The discussions have focused on ways the Department might construct its activities and interactions with the NRC to achieve an optimum review cycle. Although the NRC staff worked with us on this matter, there was no commitment to the 27-month license application review. As culmination to the discussions, the attached letter was prepared which summarized the steps the Department would take to enhance the NRC review process.

Department of Energy
Washington, D.C. 20585

SEP 3 1985

Mr. Robert E. Browning
Director
Division of Waste Management
Mail Stop 623-SS
Nuclear Regulatory Commission
Washington, D.C. 20555

Dear Mr. Browning:

As you know, the Nuclear Waste Policy Act of 1982 (Act) mandates that the Department begin to accept waste for disposal by January 31, 1998. The Department is firmly committed to meeting this date and has structured its program accordingly.

An important element of the overall planning is to put into place a process whereby the Nuclear Regulatory Commission (NRC), working in concert with the Department, receives the information it needs to meet the schedules mandated by the Act. Over the past few months, we have been working closely with you and your staff to more clearly define these information needs. As a result, it is our expectation that a number of steps will be put into place by the Office of Civilian Radioactive Waste Management (OCRWM) to keep the Commission fully informed, during the prelicensing period, of the Department's activities and programs leading to the submission of a License Application (LA) for a geologic repository. Further, this program for rapid and complete transfer of information will continue throughout the LA process. Specifically, the OCRWM's Office of Geologic Repositories (OGR) will continue and/or put into place the following interactions with the Commission and other parties:

1. Prelicensing Consultations

   The OGR will continue to meet regularly with the NRC staff in a free and open exchange to present its plans and program for site characterization, repository design, Environmental Impact Statement (EIS) and LA development, and data collection and interpretation. These meetings will be arranged and scheduled so that the NRC staff will have ample opportunity to review the material prior to the meetings, and scheduled sufficiently early in the process, so that the staff's advice can be considered and incorporated into the activity.

Recently, the OGR and NRC staffs met to develop a schedule for joint meetings on the repository program. The meetings encompassed a broad range of topics, from those with management orientation to topics strictly technical in content. In all, 30 meetings were identified between June and December 1985. Later this fall, we expect to meet again with the NRC staff to identify additional topics that would be scheduled next calendar year. In particular, the OGR will meet with the NRC staff in the next three to six months to describe specific activities planned and milestones from now through submittal of the LA. This will provide a detailed and systematic basis for determining and agreeing upon what are appropriate points for consultation between the two agencies.

2. Licensing Information System

For the past several months the OCRWM has had under development a computer based licensing information system. This system will be designed to capture virtually the entire span of activities which relate to the repository program and the licensing process. We have had two meetings on this system with the NRC staff and believe we understand your position on the critical elements of such a system. Basically, we plan to put into place a system which will provide you and others with on-line full text access to the extent possible, for retrieval of program documents. This includes correspondence, internal memos, reports, issue tracking and other appropriate records. We will continue to work with your staff in developing the system. It is our belief that this system will not only provide your staff with current and complete records of the program but also serve as a vehicle to support the licensing process. In particular, we believe the system that we plan to adopt will ensure rapid turnaround and complete recovery of appropriate program documents during the discovery process.

3. Quality Assurance Plans and Activities

We have developed a quality assurance program for both the OCRWM's Headquarters organization and the Project Offices. Substantial progress has been made in implementing these programs. We met with the NRC staff in November 1984, to provide a briefing on the status of the quality assurance programs at Headquarters and in each project. In December 1984, representatives from NRC's Division of Waste.

Management and Office of Inspection and Enforcement visited each of DOE's three first-repository projects and received a briefing on each project's quality assurance program. In addition, NRC personnel attended DOE Headquarters' audits of the Tuff and Basalt projects during March and May 1985, and the Salt project audit in July 1985.

In turn, DOE Headquarters and each of the projects have been briefed by NRC on the lessons learned from nuclear power plant quality assurance experience as set forth in NUREG-1055, "Improving Quality and the Assurance of Quality in the Design and Construction of Nuclear Power Plants."

As you know, a final quality assurance plan has been issued by the OGR. In addition, quality assurance plans have also been issued by the Nevada Nuclear Waste Storage Investigations project (NNWSI) and the Basalt Waste Isolation Project (BWIP). The Salt Repository Project Office (SRPO) has issued a draft quality assurance plan; following incorporation of OGR comments a final plan will be issued. NRC has been provided with copies of the HQ plan and also all project plans. OGR and the projects are now developing procedures to implement these plans and to have a fully qualified program in place prior to submittal of the SCPs. We will request NRC to audit our program so that we might demonstrate compliance with the QA requirements.

4. Environmental Impact Statement

The Nuclear Waste Policy Act requires that the Department's Environmental Impact Statement (EIS), used in selection of the repository site, be adopted to the extent practicable by the Commission in connection with the issuance of a construction authorization and license for the repository. The OGR is presently developing a conceptual plan for the preparation of the EIS. We will discuss this plan with you before it is finalized. Further, we expect to invite NRC to participate, as a cooperating Agency, in the preparation of the EIS and to consult with the staff as the EIS is being developed. We hope that the NRC will agree to become a cooperating agency in order to faciliate the development of an EIS that can be adopted by NRC. We expect that our initial meeting with the staff will be scheduled within the next few months.

5. States, Affected Indian Tribes, and Outside Parties

The OCRWM is committed to an open program where data and information pertaining to the sites is readily available. In this regard, we expect to continue our efforts of involving the States and affected Indian Tribes in our program activities including meetings with the Nuclear Regulatory Commission such as described in item 1 above. Further, it is our plan that the States and affected Indian Tribes will have an opportunity, if they so desire, to access our licensing information system. In all meetings with the NRC staff, we will provide review materials pertaining to the meetings in a timely manner as agreed to in the DOE/NRC Management meeting of May 30, 1985. In regard to outside parties, the OGR plans to address and to the extent possible, resolve concerns, both technical and institutional, that we are able to identify, prior to issuance of the LA.

These steps, along with others to be identified in future discussions with you, will greatly facilitate the Commission's participation and understanding of the repository program during the next six years prior to submittal of a Licensing Application. Accordingly, at the time of the Department's submittal of the License Application, we anticipate that the Commission will be fully prepared to act upon the Application in a manner consistent with considerations of the public health and safety, and hopefully, as discussed in our mission plan.

I am fully committed to continue to work with your office and would welcome the opportunity to discuss any of the above items with you, as well as any additional activities which might help enhance the process.

Sincerely,

William J. Purcell
Associate Director
  for Geologic Repositories
Office of Civilian Radioactive
  Waste Management

QUESTION 2b: In view of the fact that the schedule has already slipped by almost a year from the deadline set forth in the Act, do you still believe we can meet the 1998 timeframe without sacrificing important technological needs? Will a compressed schedule still meet the procedural requirements of the Act, or are we headed down a road that will end up tangled in litigation?

ANSWER: DOE recognizes that its reference schedule is an aggressive one that contains milestones that will require our best effort to achieve. Admittedly, the repository program has experienced some delays and has missed some milestones listed in the Nuclear Waste Policy Act and in previous program schedules, such as those contained in the Draft Mission Plan. Other milestones, such as the issuance of the Siting Guidelines and the Final Environmental Assessments, were not met because DOE made a conscious decision to expand the process by which these documents were developed to facilitate particpation by affected States and Indian Tribes and the public. Future milestones may also be missed for similar reasons. However, DOE still believes the overall schedule is achievable and that the most important milestone established by the Act, which is the January 1998 date for the start of disposal operations, can be met without compromising technological or procedural requirements.

QUESTION 2c: Has DOE so far met its obligation to report any schedule slippages to Congress? Does it plan to do so in the future?

ANSWER Thus far, when DOE has been unable to meet specific schedules laid out in the Act, it has notified the Congress in program documents, letters to Congress and through interaction with Congress during the appropriation process and congressional hearing testimony. The Department has, for example, notified Congress by letter as to delays in the issuance of the Siting Guidelines, the Mission Plan, the Nomination and Recommendation of Sites for Site Characterization, and the Proposal to Congress on the Need for and Feasibility of one or more Monitored Retrievable Storage Facilities.

In addition, a principal requirement contained in the Nuclear Waste Policy Act for reporting schedule slippages is found in Section 114(e) of the Act. Section 114(e) requires DOE to develop a Project Decision Schedule (PDS) that depicts the set of activities for which Federal agencies have responsibility and the deadlines for taking the required action that is associated with the activities. If any of the affected Federal agencies determines that it cannot comply with any deadline in the PDS, or fails to so comply, it is required to submit a report to DOE and Congress explaining the reason for such actual or potential failure. After reviewing this report, DOE must submit its response to Congress. Because the PDS is still in draft form (DOE/RW-0018, July 1985), no such reports have been made.

QUESTION 3a: Many of the criticisms of the Civilian Radioactive Waste Program revolve around lack of adequate interaction with the States, Indian Tribes, and the public at large. Yet I have gone thru the Act and I find at least a dozen mandated points at which public hearings are required. Furthermore, you have indicated instances where the DOE has voluntarily solicited public input. Could you elaborate on this?

ANSWER: The Nuclear Waste Policy Act of 1982 requires that DOE conduct a number of public hearings at various points in the program. DOE will, of course, hold such public hearings as required by the Act. The Department finds these hearings and other numerous interactions with the States, Indian Tribes, and the public to be extremely helpful in its decision-making process.

There are a number of instances in which DOE has voluntarily solicited public input to ensure an effective program for public review and involvement. Examples of this include the following:

o In March 1983, DOE voluntarily conducted public hearings on the proposed Siting Guidelines and held briefings for State officials. In addition, during the development of the Siting Guidelines, DOE invited State and public review of the draft Guidelines.

Answer 3a (con't.)

- DOE has provided for the early involvement of States in reviewing draft background chapters prior to release of the draft documents, has issued the draft Environmental Assessments in December 1984, and held extensive public briefings and hearings conducted in conjunction with the issuance of the draft documents.
- A similar program of briefings and public hearings is planned to coincide with release of the draft Area Recommendation Report for the second repository, scheduled for later this year.

Currently, DOE holds quarterly meetings with representatives of the affected States and Indian Tribes to discuss program developments and plans. The development of transportation plans has involved representatives of States and Tribes, as well as representatives of industry and public interest groups. In addition, DOE Project Offices regularly meet with State and Tribal officials and the public in a variety of forums.

DOE intends to continue to search for better ways to promote productive interaction with affected States and Indian Tribes, local governments, and the public.

QUESTION 3b: Were you required by the Act to hold public hearings and solicit comments on the draft Environmental Assessments? How long did the States have to review and comments on the draft EA's? How many hearings and comments did you count?

ANSWER: The Nuclear Waste Policy Act did not require the Department of Energy to issue draft Environmental Assessments or to hold public hearings on the draft EAs. However, DOE is committed to the development of an effective program for public review and participation. The release of the draft Environmental Assessments in December 1984 and the activities associated with the release demonstrate that commitment. In addition, even in advance of the issuance of the draft Environmental Assessments, DOE submitted drafts of background chapters of the draft Environmental Assessments to States and Tribes for their review.

When the nine draft Environmental Assessments were issued, DOE announced a 90-day comment period. In January 1985, DOE conducted a series of 52 briefings for Federal, State, and local representatives, the public, and the press to facilitate review of the draft EA's. Following the briefings, DOE held 19 formal public hearings in the six affected States, plus Oregon and the District of Columbia, and received extensive comments on the draft Environmental Assessments.

Those were in addition to comments received through the mail, and together they amounted to some 2,700 "comment letters," which when analyzed were found to contain more than 26,000 separate comments.

All issues raised by comments received by mid-August 1985 -- a full 8 months after the release of the draft Environmental Assessments -- are being considered by DOE in preparation of the final Environmental Assessments and the comment response documents.

FISCAL YEAR FINANCIAL REPORT

(Post-NWPA Grant Awards By Fiscal Year, By Project Office, By Grantee)

OFFICE OF CIVILIAN RADIOACTIVE WASTE MANAGEMENT
OFFICE OF GEOLOGIC REPOSITORIES

GRANTEE	DESIGNATED AGENCY	GRANT AWARDS* FY 83	FY 84	FY 85	TOTAL
		(dollars)			
BASALT WASTE ISOLATION PROJECT					
WA	Department of Ecology	$ 229,963	$ 806,163	$ 1,451,873	$ 2,487,999
WA	State Legislature	---	---	247,474	247,474
NP[1]	Tribal Executive Committee	---	---	526,568	526,568
UI[2]	---	---	272,697	547,122	819,819
YI[3]	Tribal Council	216,583	937,331	992,938	2,146,852
		==========	==========	==========	==========
SUBTOTAL		$ 446,546	$2,016,191	$ 3,765,975	$ 6,228,712
NEVADA NUCLEAR WASTE STORAGE INVESTIGATION					
NV	Nuclear Waste Project Office	$ 350,000	$ 646,083	$ 1,898,778	$ 2,894,861
		==========	==========	==========	==========
SUBTOTAL		$ 350,000	$ 646,083	$ 1,898,778	$ 2,894,861
SALT REPOSITORY PROJECT OFFICE					
LA	Department of Natural Resources	$ ---	$ 533,319	$ 300,000	$ 833,319
MS	Energy and Transportation Board	330,000[4]	496,980	1,024,464	1,851,444
TX	Energy and Natural Resources Advisory Council AND Office of the Governor[5]	215,240	384,600	352,617	952,457
UT	Department of Community and Economic Development	347,000	513,183	790,350	1,650,533
Univ. of AZ	College of Engineering	10,000	---	---	10,000
		==========	==========	==========	==========
SUBTOTAL		$902,240	$1,928,082	$ 2,475,431	$ 5,305,753

FISCAL YEAR FINANCIAL REPORT (Continued)
(Post-NWPA Grant Awards By Fiscal Year, By Project Office, By Grantee)

GRANTEE	DESIGNATED AGENCY	GRANT AWARDS* FY 83	FY 84	FY 85	TOTAL
		-----------------------	(dollars)	-----------------------	
CRYSTALLINE REPOSITORY PROJECT OFFICE					
CT	Department of Environmental Protection	$ 35,200	$ 160,143	$ 121,783	$ 317,126
GA	Department of Natural Resources	75,000	37,440	135,491	247,931
ME	Department of Conservation	228,509	26,848	157,483	412,840
MD	Department of Natural Resources	15,000	16,734	71,401	103,135
MA	Health Research Institute	46,609	122,721	240,081	409,411
MI	Department of Public Health	79,120	195,011	113,379	387,510
MN	Environmental Quality Board	70,000	291,995	188,592	550,587
NH	Office of State Planning	32,390	57,493	174,655	264,538
NJ	Department of Environmental Protection	48,724	112,992	64,433	226,149
NY	Education Department	---	246,450	196,678	443,128
NC	Department of Natural Resources and Community Development	25,000	272,546	166,467	464,013
RI	Office of the Governor	99,525	---	108,008	207,533
SC	Office of the Governor	75,867	175,819	159,811	411,497
VT	Department of Water Resources and Environmental Engineering	10,000	42,462	66,718	119,180
VA	Department of Health	---	41,130	---	41,130
WI	Radioactive Waste Review Board	79,272	262,393	233,617	575,282
		==========	==========	==========	==========
SUBTOTAL		$920,376	$2,062,177	$ 2,198,437	$ 5,180,990
TOTAL		$2,619,162	$6,652,533	$10,338,621	$19,610,316

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* Award amounts shown reflect new monies obligated to States, Indian Tribes, and organizations by DOE. Carry over amounts are not shown.

[1] Nez Perce Tribe.

[2] Confederated Tribes of Umatilla Indian Reservation.

[3] Yakima Indian Nation.

[4] This amount includes $60,000.00 awarded under the old grant (DE-FG44-80R410282) after the passage of the Act. Under the old grant, $572,391.66 (including $528,000.00 in PRE-NWPA award money) were used. $15,608.34 were deobligated on 1/11/84. The new grant (DE-FG97-83NM46655), which is the current grant, was awarded to the same organization on 2/22/83. The remainder of POST-NWPA funding for FY 83 ($270,000.00) was made under this new grant.

[5] The designated State agency was changed from the Texas Energy and Natural Resources Advisory Council to the State of Texas, Office of the Governor on 9/1/83.

SOURCE: Derived from Notices of Financial Assistance Award received by the Office of Civilian Radioactive Waste Management through 1/30/85.

QUESTION 3c: How much money has been awarded to the States and Indian Tribes so far under the grant assistance provisions of the Act?

ANSWER: Since the Act was signed on January 7, 1983, the Office of Civilian Radioactive Waste Management has approved and overseen the administration of grants to 23 States, 3 Indian Tribes and the University of Arizona for their participation in the first and second repository programs. In the first repository program, the six affected States and three Indian Tribes, plus the University of Arizona, have been funded for a total of $14,429,326. In the second repository program, 16 States have been awarded grants amounting to $5,180,990. The total for the first and second repository programs is $19,610,316. Attached is the Fiscal Year Financial Report for post-NWPA grants which provides a breakdown of this information. In addition, two national organizations representing the interests of those parties have also been funded (National Conference of State Legislatures and National Congress of American Indians) for a total of $856,510. Discussions on a new grant award are also proceeding with the National Governors' Association. In the Monitored Retrievable Storage program, Tennessee has been awarded $1.4 million.

QUESTION 4: I note that the Act required DOE to respond to public requests for information within 30 days of receipt of the written request. Are there any instances that you know of where DOE failed to fulfill this responsibility?

ANSWER: We have made every effort to respond to requests from States and Indian Tribes within the time frame required by the Act. At times, the complexity of issues has precluded a complete response to States or Indian Tribes within the period of time allotted.

In addition, we attempt to respond to requests from the general public on a timely basis. To respond to local public information requests, DOE has also opened community information offices in States with potenially acceptable sites for the first repository. These offices are designed to provide current and immediate program information on a walk-in or telephone basis. Additionally, DOE maintains reading rooms at Headquarters and the eight Operations Offices for purposes of making program information readily available to the public. Finally, DOE maintains an extensive list of public libraries where program documents are available to the public and we will shortly provide to States, Indian Tribes and other interested parties the first edition of an Information Services Directory which lists general information sources. A monthly Bulletin and biweekly milestones provide additional information. We know of no instances where DOE failed to respond to general public information requests when formally submitted.

QUESTION 5: Concerning public participation, I understand that one of the State lawsuits would force DOE to provide additional money to the States for its own geological and hydrological drilling program. While you may not want to comment directly on this, I wonder if you could tell us (a) to what extent the States will become involved in any monitoring, testing, or evaluation activities, and (b) when this State activity can be initiated, according to Section 116 of the Act?

ANSWER: During site characterization, the States and Indian Tribes will be provided funding to conduct independent monitoring, testing, and evaluation of DOE generated data. According to Section 117 of the Act, however, State and Indian Tribe activities should not unreasonably interfere with or delay DOE site characterization activities. Funding will not be provided to conduct primary data collection activities (e.g., drilling on site) for the purposes of site characterization. If a State or Indian Tribe identifies a concern that in its view requires additional primary site characterization data collection, and DOE agrees that the data is needed, DOE will collect the primary data and share the results of that collection effort with the State or Tribe. This could involve contracting with the State or Indian Tribe, if it has the capability.

QUESTION 6: With respect to the C&C interactions between DOE and the States and Indian Tribes, I have heard some concern expressed that the States really cannot provide input early enough in the decision-making process to have a real effect on the final outcome. Would you care to comment?

ANSWER: DOE has attempted to provide a variety of opportunities at which States and Indian Tribes can provide early input to affect the program. The processes have usually been interactive meetings between DOE and States and Tribal representatives or opportunities for States and Indian Tribes to comment on draft program documents. In these instances, the input has assisted DOE in program planning and improved the quality of program documents.

One example of DOE and State interaction is the quarterly meeting attended by DOE officials and State and Indian Tribal representatives. At these meetings, which the States and Tribes take turns chairing, the participants have been briefed on DOE program developments, topics of mutual interest have been discussed, and ways in which the States/Tribes can become more involved in the program have been identified.

DOE also solicits the comments of States and Indian Tribes on program documents. For example, the draft Mission Plan was issued in April 1984

Answer 6 (con't.)

for public comment. The revised Mission Plan and accompanying Comment Response Document published in June 1985 illustrate the Department's commitment to seeking and addressing State/Tribe input.

In December 1984 DOE issued draft Environmental Assessments to solicit comments. Although the NWPA did not require the Environmental Assessments to be issued in draft form, the Department did so in order to allow States, Indian Tribes, and the public the opportunity to comment. The Department also conducted extensive public briefings and held public hearings to receive testimony on the draft documents. The final Environmental Assessments that will be published later this year have been revised, as appropriate, in response to issues raised by the more than 21,000 comments received.

These are just a few examples of the opportunities DOE has provided to try to involve the States and Tribes, as well as the public, in the decision-making process.

QUESTION 7a: I understand that the Governor of Washington State has called for an independent review of the site selection process. Would you care to explain the steps you have taken towards that end?

ANSWER: In response to public comments received on the ranking methodologies presented in the draft Environmental Assessments and to requests for independent reviews of the site-selection process, such as from the Governor of Washington, the Department has requested that the National Academy of Sciences' Board on Radioactive Waste Management review a generic description of the ranking methodology proposed for application in the nomination and recommendation of sites for site characterization. The ranking methodology is a much refined, more detailed and explicit version of one of the methods presented in the draft EAs (see attached). The purpose of the methodology is to aid in the decision as to which three sites from a set of five sites proposed for nomination should be recommended for characterization.

(DOE Ranking Methodology For
Application in the Nomination
and Recommendation of Sites
for Site Characterization)

A METHODOLOGY FOR AIDING REPOSITORY SITING DECISIONS

August 1985

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Office of Civilian Radioactive
Waste Management
Department of Energy

I. BACKGROUND AND INTRODUCTION

On December 20, 1984, the Department of Energy (DOE) published draft environmental assessments (EAs) to accompany the proposed nomination of five sites as suitable for site characterization for the first geologic repository. The final chapter of the draft EAs (Chapter 7) contained a comparative evaluation of the five sites against the DOE's siting guidelines (10 CFR Part 960). To determine which three sites appeared most favorable for recommendation for characterization, three simple quantitative methods were employed to aggregate the rankings assigned to each site for the various guidelines. These methods were reviewed by several groups commenting on the draft EAs, including the National Research Council's Board on Radioactive Waste Management. Two of the methods (averaging and pairwise comparison methods) were criticized for lacking firm theoretical foundations. The third method, described variously as the utility-estimation, rating, or weighting-summation method, was criticized because its application did not follow the formal procedures suggested by the professional literature. In response to these comments, the DOE has developed a more formal utility-estimation method (hereafter referred to as a decision-aiding methodology) to provide a more defensible overall comparative evaluation of sites. That methodology is described in this document.

Relationship to, and Consistency with, the Siting Guidelines

The decision-aiding methodology must be consistent with the DOE siting guidelines, which consist of implementation guidelines, system guidelines, and technical guidelines. System and technical guidelines are defined for the postclosure and the preclosure periods. The system guidelines contain broad requirements that are based generally on the objectives of protecting public health and safety and the environment during repository construction, operation, closure, and decommissioning and of assuring reasonable costs. The data required for a complete assessment of site performance against the system guidelines, however, will be available only after site characterization and the concurrent socioeconomic and environmental investigations. In lieu of such data and analyses, technical guidelines were defined for each system guideline to give a measure of the potential suitability of a site before detailed studies of the site can be performed.

The postclosure technical guidelines govern the performance of a repository over the long term and are concerned with the physical properties and physical phenomena at a site (e.g., geohydrologic conditions). The preclosure technical guidelines are concerned with the impacts of a repository before it is closed. The preclosure guidelines are divided into three subgroups: (1) preclosure radiological safety; (2) environment, socioeconomics, and transportation; and (3) ease and cost of siting, construction, operation, and closure.

The implementation guidelines establish a number of requirements that constrain the application of the methodology. Briefly, they require that primary significance or weight be given to the postclosure guidelines and that, for the preclosure period, radiological safety; environmental impacts, socioeconomics, and transportation; and the ease and cost of siting, construction, operation, and closure be considered in decreasing order of importance.

The decision-aiding methodology is used primarily to aggregate the performance rankings assigned for the technical guidelines because the data collected to date are insufficient for a conclusive comparison of sites on the basis of the system guidelines.

Role of the Methodology

It has been suggested that the ranking of sites should be based on the results of performance assessments. However, the assessments that can be performed before site characterization are preliminary, inconclusive, and incomplete; for example, they do not account for the effects of heat on the isolation capability of the host rock. Nonetheless, the results of the preliminary performance assessments can be used for consistency checks against the results obtained from the formal methodology, which is more specific.

The decision-aiding methodology is intended to provide a framework for systematically accounting for the professional judgment required in selecting sites for characterization. It should permit the scientific and value judgments to be made explicit to the reviewer. Furthermore, the methodology should permit sensitivity analyses and, if necessary, more-complex uncertainty analyses that can be used to explore the sensitivity of the decision to alternative professional judgments. The methodology is not intended to be used, by itself, to determine which sites should be recommended; its purpose is to provide a technical basis, in conjunction with the provisions in the siting guidelines on the diversity of rock types and other information, for such a decision. The decision as to which sites will be recommended will be made by the Secretary of Energy.

Methodology Overview

The technical name for the decision-aiding methodology is multiattribute utility analysis. The procedures and sequence of application follow those recommended in the professional decision-analysis literature (e.g., Keeney and Raiffa, 1976; Keeney, 1980; Edwards and Newman, 1982; Hobbs, 1982; Merkhofer, in press).

The methodology consists of six steps: (1) identifying and organizing objectives, (2) establishing performance measures and associated scales for measuring the extent to which a site meets the objectives, (3) verifying the independence assumptions necessary for the simple aggregation of assessments against competing objectives, (4) assessing single-attribute utility functions, (5) assigning scaling factors or weights, and (6) performing numerical calculations and sensitivity analyses.

The various steps of the analysis are being conducted by a DOE team consisting of experts in decision analysis, the technical disciplines corresponding to the technical siting guidelines, and repository performance. The technical information for the analysis is being obtained from the final EAs. Value tradeoffs and other judgments necessary for sensitivity analyses are being provided by DOE management and staff.

The next section of this document describes the basic concepts and methods on which the methodology relies. Section III describes the basic steps of the methodology in detail.

II. CONCEPTS AND METHODS USED IN THE DECISION-AIDING METHODOLOGY

This section introduces the basic concepts and methods that provide the logical foundation for the decision-aiding methodology. Readers not concerned with the theory on which the methodology relies or those already familiar with decision theory may wish to skip to Section III, which provides a detailed description and explanation of the decision-aiding methodology.

Basic Structure and Logic of Decision-Aiding Methodology

A fundamental tenet of virtually all decision-aiding methodologies is that understanding can be improved by dividing a decision into its parts, analyzing the parts separately, and combining the results at the end. Common sense suggests that this divide-and-conquer strategy improves the quality of decisions.

Perhaps the most important "decomposition" produced by decision-aiding methodologies is the separation of knowledge from preferences, or value judgments. Decision theory argues that a decision should logically depend on the likelihoods of the possible consequences of each alternative and the relative preferences of decisionmakers for those consequences. Figure 1 shows how decision-aiding methodologies generally separate knowledge and judgment. First, alternatives are characterized in terms of technical factors or descriptors. Next, an assessment is made of the consequences associated with the selection of an alternative with the specified characteristics. This assessment provides measures of the performance of the alternative. Finally, the various performance measures are evaluated and integrated to obtain an overall measure of the desirability of the alternative. Nearly all decision-aiding methodologies have this basic form (Merkhofer, 1983).

An advantage of a methodology of the form shown in Figure 1 is the division of responsibility between technical experts and policymakers. Technical experts are responsible for all aspects of the methodology that deal with information or knowledge. For example, a comprehensive and accurate description of an alternative in terms of technical descriptors requires a detailed understanding of the characteristics of the alternative and is therefore the logical responsibility of those most familiar with the alternatives. Similarly, the assessment of the possible consequences of an alternative--which must be based on all available information, including collected data, models, and professional judgment--is also the logical responsibility of technical experts.* Those aspects of the methodology that

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*The same experts, however, need not both characterize the alternatives and estimate their consequences, because the latter task relies more on an understanding of cause-and-effect relations than a detailed understanding of the options. The ability to separate the tasks assigned to such experts not only permits data to be collected from those most qualified to provide it but also helps to reduce the potential for biases.

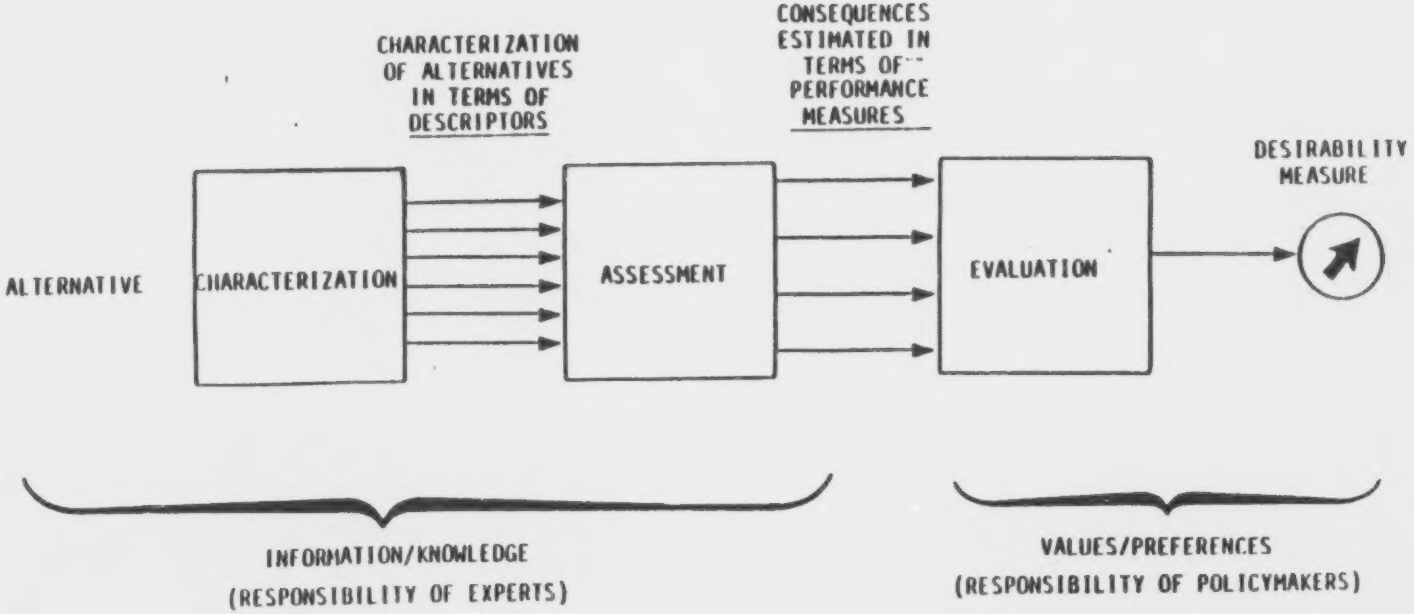

CHARACTERIZATION OF ALTERNATIVES IN TERMS OF DESCRIPTORS
CONSEQUENCES ESTIMATED IN TERMS OF PERFORMANCE MEASURES
DESIRABILITY MEASURE
ALTERNATIVE
CHARACTERIZATION
ASSESSMENT
EVALUATION
INFORMATION/KNOWLEDGE
(RESPONSIBILITY OF EXPERTS)
VALUES/PREFERENCES
(RESPONSIBILITY OF POLICYMAKERS)

Figure 1. Basic form of most decision-aiding methodologies.

deal with preferences, or value judgments, on the other hand, are assigned to policymakers. To establish preferences, it is necessary to consider the objectives and the values of stakeholders. This is the logical responsibility of policymakers.

To represent and account for knowledge and judgment, the decision-aiding methodology relies on concepts that are well established in the decision-analysis literature. The most important of these concepts are the multiattribute utility theory and probability theory.

Multiattribute Utility Theory

Performance measures provide assessments of an alternative along specific dimensions. The multiattribute utility theory provides a means for making these assessments commensurable in terms of a common scale of value (Holloway, 1979; Keeney and Raiffa, 1976; Keeney, 1980).

According to the theory, the value, or "utility," of an alternative can be expressed as a mathematical function of its performance measures. Thus, if numerical values are assigned for each performance measure for each site, then a numerical utility for each site can be calculated with the property that the more desirable sites will have the higher utility values.

Nearly all practical applications of the multiattribute utility theory include independence assumptions that permit the utility function to be decomposed. In most such cases, the utility function has a linear additive form. Expressed mathematically, if $x_1, x_2, x_3, \ldots, x_n$ are the performance measures of interest and independence holds, then the multiattribute utility can be calculated from an equation of the form

$$U = w_1U_1(x_1) + w_2U_2(x_2) + w_3U_3(x_3) + w_nU_n(x_n)$$

where U_1, U_2, etc., are single-attribute (marginal) utility functions (described below) for each performance measure and w_1, w_2, etc., are weighting factors.

Although independence assumptions often seem difficult to interpret conceptually, procedures for their verification are available. Keeney (1980), for example, gives an illustrative series of questions for verifying an additive form for the utility function. If such procedures indicate that the appropriate form of independence cannot be assumed, then the definitions of performance measures must be changed until independence does apply (or more-complex forms than the linear additive for the utility function must be used).

The advantage of the additive form is that it greatly simplifies the construction of a multiattribute utility function. Although general multiattribute utility functions are difficult to derive, single-attribute utility functions are relatively easy. Therefore, independence permits a multiattribute utility function to be constructed by (1) assessing single-attribute (marginal) utility functions for each performance measure, (2) assessing weighting factors, and (3) calculating the overall utility of a site as a weighted average of the marginal utilities.

Techniques for constructing utility functions are described by Keeney and Raiffa (1976), Keeney (1980), and Changkong and Haimes (1983). A possible form of a single-attribute utility function is shown in Figure 2. Although the utility function in Figure 2 is linear, utility functions are often nonlinear, reflecting, for example, a judgment of the diminishing utility of increments of performance beyond some satisfactory level.

Several techniques can be used to establish weighting factors. The simplest approach is to interpret the weighting factors as the relative importance of the objectives that underlie the performance measures. Subjects may be asked to allocate 100 percentage points among the various objectives, according to their judged importance. Although this method is simple, it is difficult to make declarative statements about the relative importance of competing objectives, and inaccuracies are likely to be produced. A preferred method for determining the weighting factors is to establish a series of "indifference" points between different combinations of performance-measure values. If the points are of equal preference, their utilities are equal, and a series of linear equations relating the utilities of the indifference points can be developed. If the indifference points are established so that only two performance measures vary at a time, the resulting equations can be easily solved for the weighting factors. A simple example is given in Section III. A detailed example that illustrates the assessment and equation-solution process is given by Keeney (1980).

Probability Theory

The concept of probability is used in the decision-aiding methodology to account for uncertainty. Following the perspective of decision analysis, probabilities (numbers between 0 and 1) represent an individual's degree of belief concerning some uncertain quantity. In the decision-aiding methodology, descriptors (e.g., ground-water travel time), performance measures (e.g., the total preclosure costs of the repository), and utilities (numbers between 0 and 100) may be uncertain. Probabilities may therefore be assigned to reflect the uncertainty about the appropriate value for descriptors, performance measures, and utilities. Where possible, historical data and statistics should be used in assigning probabilities, but if such information is not available, expert judgment can be substituted.

Probabilities can be displayed in several ways, depending on whether the uncertain variable is discrete (i.e., it can have only a finite number of possible values) or continuous (i.e., it can have any value within some range). Three alternative displays for an uncertain variable--the tree form, a cumulative probability distribution, and a probability density function--are shown in Figure 3, which illustrates uncertainty about the uncertain descriptor ground-water travel time.

In practice, probabilities for uncertain variables can be elicited from experts, using probability encoding techniques (Spetzler and Stael von Holstein, 1975). Experience has shown a number of encoding procedures to be effective. The three basic types of encoding methods are (1) probability methods, which require the subject to respond by specifying points on the probability scale while the values remain fixed; (2) value methods, which require the subject to respond by specifying points on the value scale while

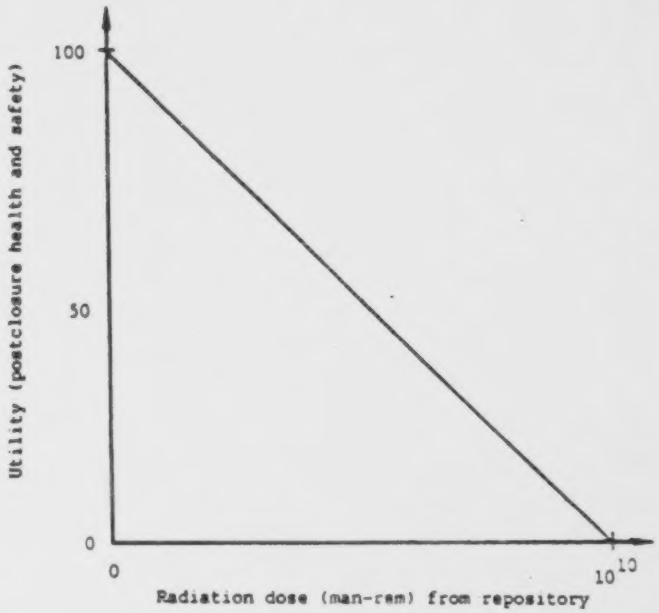
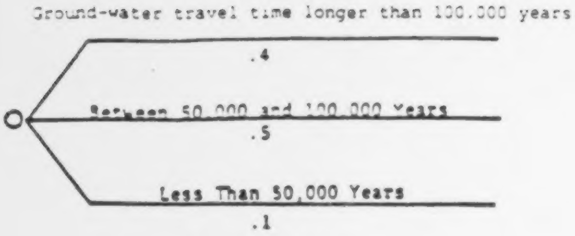
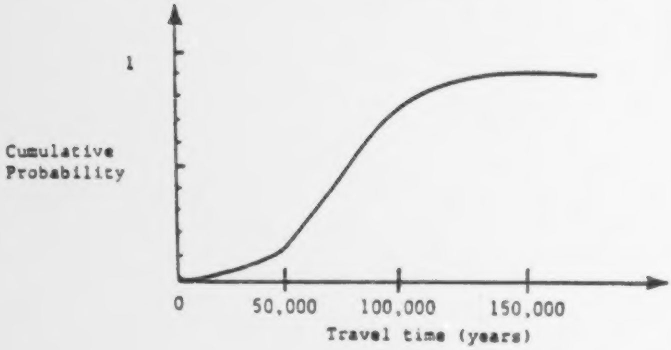


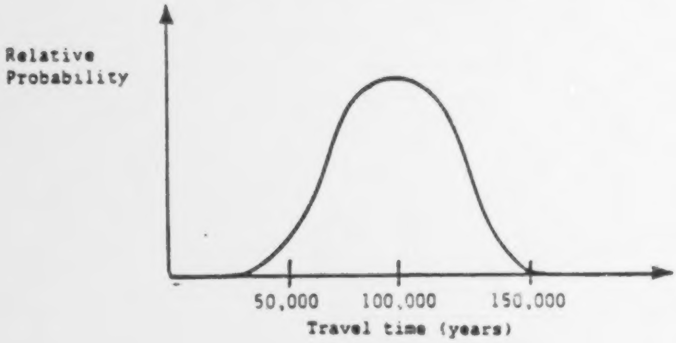
Figure 2. Sample utility function.


Ground-water travel time longer than 100,000 years
.4
Between 50,000 and 100,000 Years
.5
Less Than 50,000 Years
.1

(a) TREE FORM



(b) CUMULATIVE PROBABILITY



(c) PROBABILITY DENSITY

Figure 3. Alternative representations of probabilities: (a) tree form, (b) cumulative probability, and (c) probability density.

the probabilities remain fixed; and (3) probability/value methods, which ask questions that must be answered on both scales jointly (the subject essentially describes points on the cumulative distribution). Each of these encoding procedures can be presented either in a direct-response mode, in which the subject is asked questions that require numbers as answers, or in the indirect-response mode, in which the subject is asked to choose between two or more lotteries. The lotteries are adjusted until the subject is indifferent to choosing between them. Either external reference events (alternative lotteries defined on some external event, such as a probability wheel) or internal reference events (events defined on the same value scale as the uncertain quantity) can be used in the indirect mode.

Uncertain variables are often dependent on one another in the sense that knowledge of one influences information about the others. In such cases, the probability assigned to any one variable must be conditional on the values of the others. The tree form is useful for displaying such conditional probabilities. To illustrate, Figure 4 shows a probability tree with conditional probabilities that might be assigned to reflect the dependences between two descriptors--the average fault density in the vicinity of a site and the average rate of faulting. Gathering conditional probability assignments amounts to asking such questions as, "What are the odds that the rate of faulting exceeds X cm/year, given that the current density is Y cm^2/m^3?"

An important question involving the algebra of probability theory is how to compute the probabilities associated with an uncertain variable that is assumed to be related to other uncertain variables. Occasionally, an equation may be defined that permits a performance measure to be approximately calculated from values provided for descriptors. Similarly, an equation may be defined for relating utilities to performance measures. If probabilities can be assigned to the uncertain variables that serve as the inputs to such equations, then techniques exist for computing the probabilities for the output variables. The two principal techniques are Monte Carlo analysis and probability-tree analysis—well-known techniques that are discussed by Holloway (1979). When properly applied, both methods give essentially the same result.

The extent to which these techniques will be required in the application of the methodology to the problem of determining which sites should be recommended for characterization will depend on, among other things, whether simpler techniques like sensitivity analyses prove adequate.

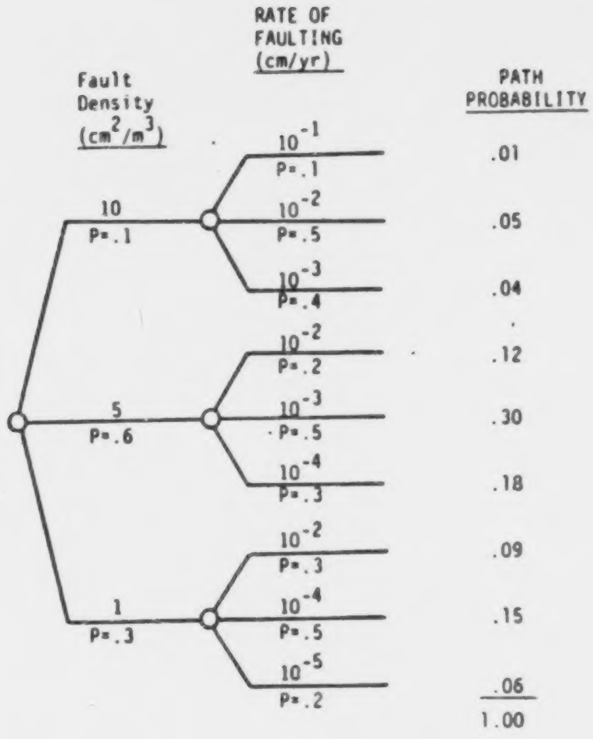

Fault Density (cm^2/m^3)
RATE OF FAULTING (cm/yr)
PATH PROBABILITY
10
P=.1
5
P=.6
1
P=.3
10^{-1}
P=.1
10^{-2}
P=.5
10^{-3}
P=.4
10^{-2}
P=.2
10^{-3}
P=.5
10^{-4}
P=.3
10^{-2}
P=.3
10^{-4}
P=.5
10^{-5}
P=.2
.01
.05
.04
.12
.30
.18
.09
.15
.06
1.00

Figure 4. Probability tree illustrating probabilistic dependences.

III. DETAILED DESCRIPTION OF THE METHODOLOGY

This section describes and illustrates the steps required to apply the decision-aiding methodology being used by the DOE in the site-recommendation process. To simplify the presentation, a full theoretical justification of some of the steps has been omitted. Where such omissions occur, references to discussions of the theory in the literature are provided.

Step 1: Identify and Organize Objectives

The relative desirability of a candidate site is assumed to depend on the extent to which the selection of that site for recommendation would achieve the various objectives of site selection. Thus, the first step in the analysis is to explicitly identify siting objectives. These objectives are being generated iteratively, beginning with generic top-level objectives and proceeding with the various lower-level objectives that provide the means for achieving the higher-level objectives. The identification of objectives is based largely on (1) the siting guidelines and other applicable regulations and (2) the knowledge and experience of the task team.

Objectives are being organized in a hierarchy to show the relationship between overall objectives and more-specific subobjectives. The process is being continued until specific technical guidelines or considerations represented within guidelines are identified. An illustration of a possible hierarchy of objectives is given in Figure 5, which shows "minimize impacts of the repository" as the overall objective and various lower-level subobjectives. Figure 5 will be used as the basis for generating examples for illustrating the remaining steps of the methodology. The reader should bear in mind, however, that the objectives hierarchy of Figure 5 is under revision and is provided for illustration only.

With the illustrative objectives hierarchy of Figure 5, the overall objective of minimizing the impacts of the repository is related to five lower-level objectives:

1. Maximize the protection of postclosure health and safety.
2. Maximize the protection of preclosure health and safety.
3. Minimize impacts on the environment.
4. Minimize adverse socioeconomic impacts.
5. Minimize economic costs.

The objectives dealing with postclosure and preclosure health and safety and the objective dealing with economic costs are divided further. For postclosure health and safety, three subobjectives are identified:

1. Minimize the health effects associated with nondisruptive geologic processes and events.

2. Minimize the health effects associated with disruptive geologic processes and events.

3. Minimize the health effects associated with human interference.

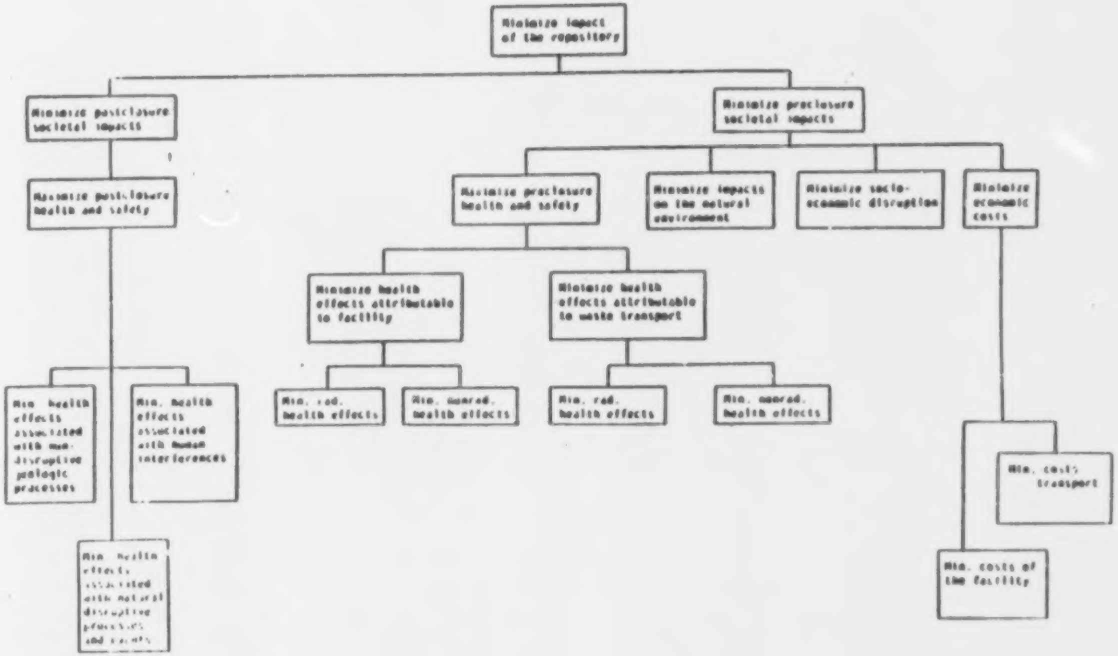

Minimize impact of the repository
Minimize postclosure societal impacts
Minimize preclosure societal impacts
Minimize postclosure health and safety
Minimize preclosure health and safety
Minimize impacts on the natural environment
Minimize socio-economic disruption
Minimize economic costs
Minimize health effects attributable to facility
Minimize health effects attributable to waste transport
Min. rad. health effects
Min. nonrad. health effects
Min. rad. health effects
Min. nonrad. health effects
Min. health effects associated with non-disruptive geologic processes
Min. health effects associated with human interferences
Min. health effects associated with natural disruptive processes and events
Min. costs transport
Min. costs of the facility

Figure 5. Objectives hierarchy showing various major and lower-level siting objectives.

For preclosure health and safety, four subobjectives are identified:

1. Minimize the health effects attributable to the repository.
2. Minimize the nonradiological health effects incurred by workers from the repository.
3. Minimize the radiological health effects attributable to waste transportation.
4. Minimize the nonradiological health effects attributable to waste transportation.

For costs, two subobjectives are identified:

1. Minimize the total economic costs associated with the repository.
2. Minimize the total economic costs associated with waste transportation.

Constructing a hierarchy of objectives, such as the example of Figure 5, aids the development of performance measures in several important ways. Performance measures need be defined only for the subobjectives at the bottom of the hierarchy. Because these lower-level subobjectives are more specific, it is easier to identify reasonable performance measures for them. Systematically constructing the hierarchy helps to ensure completeness and helps to eliminate situations where overcounting or undercounting might result (because omissions and redundancies should be fairly easily identified). The hierarchy puts the various subobjectives in perspective and provides a qualitative basis for screening out lesser concerns as not important to the overall goal.

The system guidelines provide a good starting point in developing the higher-level objectives. Most of the technical guidelines, however, cannot be directly used as subobjectives in the multiattribute-utility approach because of dependences among the guidelines. As the full hierarchy of objectives is being developed, it is being checked against the technical guidelines to ensure that all the objectives implied by the guidelines are included.

Step 2: Establish Performance Measures

The second step in the decision-aiding methodology is to establish performance measures for indicating how well each subobjective is met. Defining performance measures and their scales is essentially a creative process requiring professional judgment, knowledge, and experience. If the objectives hierarchy of Figure 5 were used, for example, three postclosure and eight preclosure performance measures would be needed. These might be denoted by the following symbols:

Symbol	Postclosure measure
x	Performance with respect to nondisruptive geologic processes
x_2	Performance with respect to disruptive geologic processes and events
x_3	Performance with respect to human interference
	Preclosure measure
y_1	Radiological safety of repository operation
y_2	Nonradiological safety of repository workers
y_3	Radiological safety of waste transportation
y_4	Nonradiological safety of waste transportation
y_5	Performance with respect to the natural environment
y_6	Performance with respect to socioeconomics
y_7	Performance with respect to repository costs
y_8	Performance with respect to transportation costs

To help establish the factors that must logically be represented by performance measures, influence diagrams are being constructed. An influence diagram is a directed graph displaying relationships (influences) among various factors (see, for example, Howard and Matheson, 1980, and Owen, 1978). The influence diagrams make explicit the relationship between the siting objectives and the guidelines (or considerations represented in the siting guidelines). Figures 6, 7, and 8 show sample influence diagrams for several of the siting objectives shown in Figure 5.

The process being used to construct influence diagrams involves both analysts and technical experts. Starting with a given siting objective--for example, minimize the postclosure public health effects resulting from nondisruptive geologic processes--the analyst asks the expert to identify the key variables whose values influence the degree to which this objective is met. In Figure 6, for example, the key variable is expected radionuclide releases to the accessible environment. Factors strongly influencing this variable are the effectiveness of the natural barriers and the effectiveness of the engineered barriers. These factors are in turn influenced by the pre-waste-emplacement characteristics of the host rock and the reactivity of the waste package and other engineered barriers. This filling-out process continues until all the factors on the bottom tiers can be readily assessed or until the point at which further decomposition is unlikely to facilitate assessment.

The bottom-tier factors basically determine the degree to which a particular objective is likely to be met. They represent considerations that are addressed by various technical guidelines. For example, Figure 6 shows that the guidelines on geohydrology, geochemistry, and rock characteristics (natural barriers) are of primary importance in determining the extent to which a site achieves postclosure subobjective x_1 (minimize the health effects due to nondisruptive geologic processes). Figure 7 shows that both these natural-barrier guidelines and the guidelines on climatic changes, dissolution, erosion, and tectonics influence the ability of a site to meet subobjective x_2 (minimize the health effects due to disruptive geologic processes and events). Figure 8 indicates that three groups of guidelines--those on natural barriers, disruptive geologic processes, and natural resources and site ownership and control--influence the achievement of subobjective x_3 (minimize the postclosure health effects due to human interference).

Because the influence diagrams indicate the factors that must logically be taken into account in judging the degree to which a site achieves each siting objective, they show the guidelines that are relevant to the various objectives and the logical relationships between the scores a site achieves on technical guidelines and the degree to which that site meets siting objectives. Coupled with the hierarchy of objectives, the influence diagrams help avoid overcounting and undercounting the importance of the various considerations represented in the guidelines because the logical significance of factors can be inferred from the relationships between these factors and the lower- and higher-level objectives that they influence. Figures 6, 7, and 8 show, for example, that considerations represented by the natural-barrier guidelines (rock characteristics, geochemistry, and geohydrology) have great importance because these considerations influence all three postclosure subobjectives.

After the construction of influence diagrams, it is necessary to specify the attributes that define the performance measures and the associated scales. Technical experts familiar with the objectives and goals of repository siting are undertaking the development of performance measures as a joint effort with analysts who are experienced in the development of such measures and knowledgeable in the role and purpose of performance measures in decision-aiding methodology. Careful attention is being given to establishing the performance measures because they serve as criteria for representing how well a particular site meets the objectives of the repository program. Care must be taken to ensure that, to the extent practicable, performance measures are complete (to cover all repository siting objectives), operational, nonredundant (to avoid doublecounting possible impacts), and minimal (to reduce the time and cost of their application). The influence diagrams show the basic site characteristics that must be logically reflected in the performance measures and provide the basis for relating a site's score on a performance measure to its scores on various guidelines.

In theory, performance measures can be either direct or indirect measures of objectives, and either natural or constructed scales can be used. Natural scales are established scales that enjoy common usage and interpretation. For instance, the objective to "minimize construction costs" might be associated with the direct performance measure of total costs. The appropriate natural

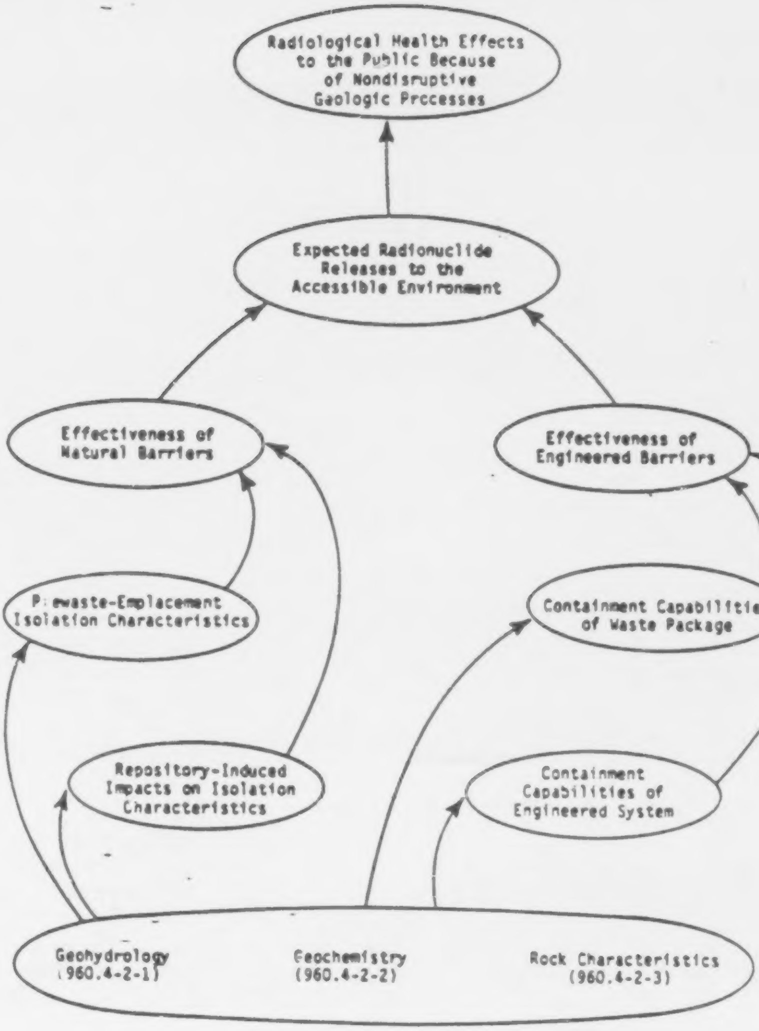

Radiological Health Effects to the Public Because of Nondisruptive Geologic Processes
Expected Radionuclide Releases to the Accessible Environment
Effectiveness of Natural Barriers
Effectiveness of Engineered Barriers
Prewaste-Emplacement Isolation Characteristics
Containment Capabilities of Waste Package
Repository-Induced Impacts on Isolation Characteristics
Containment Capabilities of Engineered System
Geohydrology (960.4-2-1)
Geochemistry (960.4-2-2)
Rock Characteristics (960.4-2-3)

Figure 6. Factors influencing postclosure health effects due to nondisruptive geologic processes.

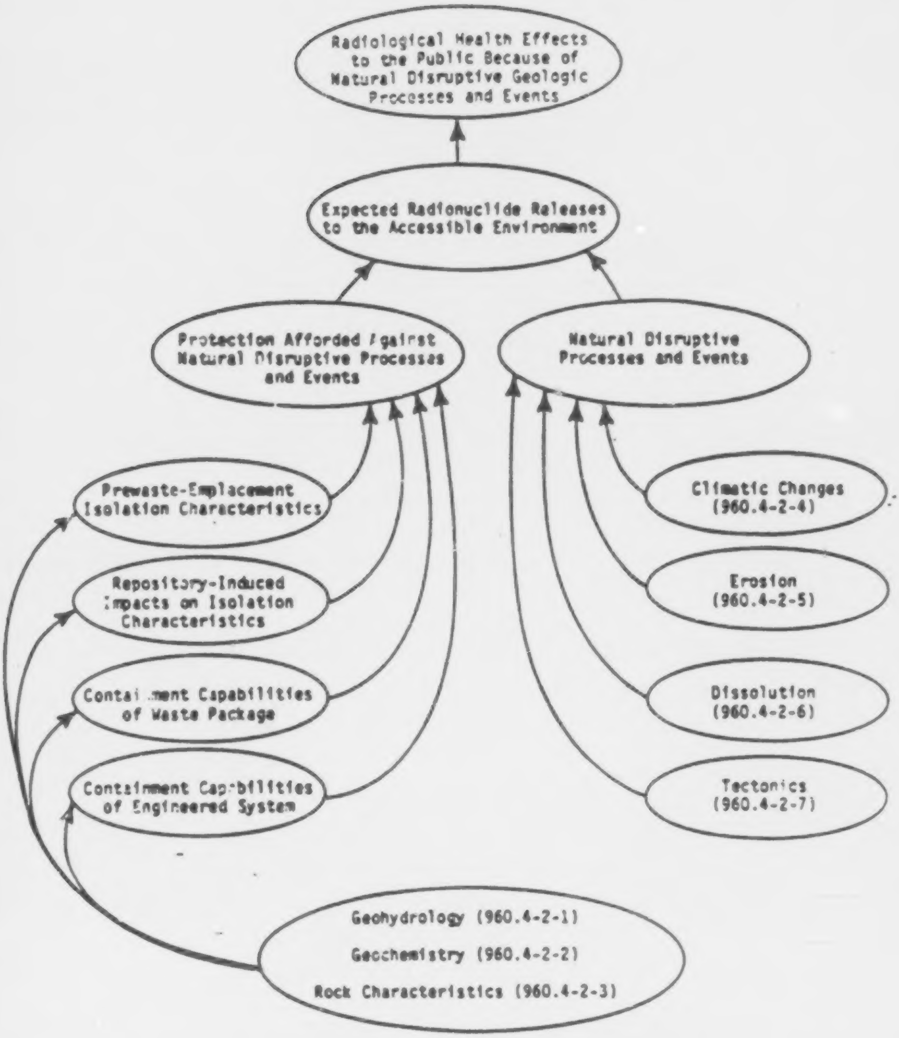

Radiological Health Effects to the Public Because of Natural Disruptive Geologic Processes and Events
Expected Radionuclide Releases to the Accessible Environment
Protection Afforded Against Natural Disruptive Processes and Events
Natural Disruptive Processes and Events
Prewaste-Emplacement Isolation Characteristics
Repository-Induced Impacts on Isolation Characteristics
Containment Capabilities of Waste Package
Containment Capabilities of Engineered System
Climatic Changes (960.4-2-4)
Erosion (960.4-2-5)
Dissolution (960.4-2-6)
Tectonics (960.4-2-7)
Geohydrology (960.4-2-1)
Geochemistry (960.4-2-2)
Rock Characteristics (960.4-2-3)

Figure 7. Factors influencing postclosure health effects due to disruptive geologic processes and events.

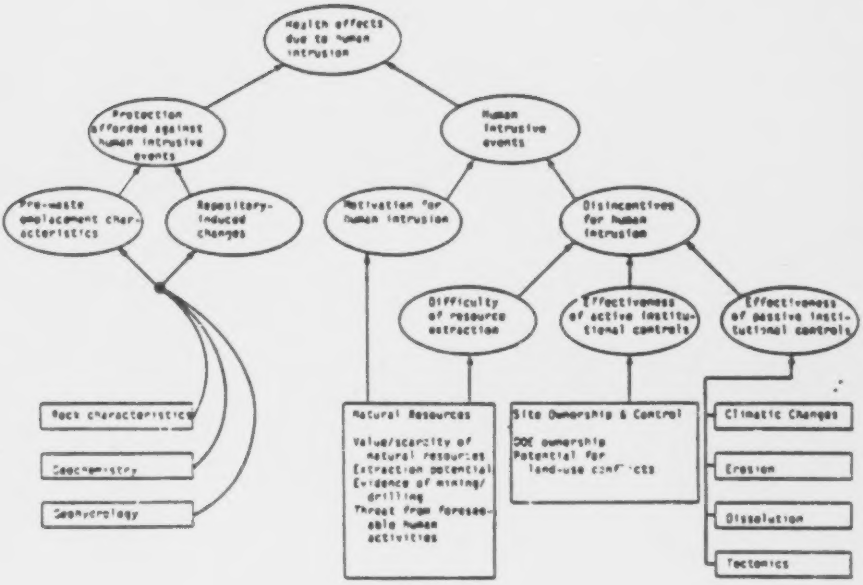

Health effects due to human intrusion
Protection afforded against human intrusive events
Human intrusive events
Pre-waste emplacement characteristics
Repository-induced changes
Motivation for human intrusion
Disincentives for human intrusion
Difficulty of resource extraction
Effectiveness of active institutional controls
Effectiveness of passive institutional controls
Rock characteristics
Geochemistry
Geohydrology
Natural Resources
Value/scarcity of natural resources
Extraction potential
Evidence of mining/drilling
Threat from foreseeable human activities
Site Ownership & Control
DOE ownership
Potential for land-use conflicts
Climatic Changes
Erosion
Dissolution
Tectonics

Figure 8. Factors influencing postclosure health effects due to human interference.

scale of measurement would be dollars. Constructed scales, on the other hand, are developed specifically for the problem at hand and are necessary when no natural scale of impact is available.

For maximum consistency with the aggregation method used in the draft EAs, constructed scales of 1 to 10 are being defined for each measure. These constructed scales are being defined in terms of either natural measures like dollars (e.g., a score of 4 on the performance measure "costs of the repository" (y_7) might mean that repository costs are estimated to be $6.33 billion) or in terms of collections of qualitative and quantitative descriptions (e.g., a score of 3 on the performance measure "environmental impact" (y_6) might mean "no significant conflicts with environmental requirements, but many environmental impacts, a few of which are difficult to mitigate").

Figure 9 shows sample definitions for two possible performance measures. In general, scores of 1 and 10 represent, respectively, the worst and the best levels of performance judged to be reasonably conceivable.

The performance measures in Figure 9 are described in terms of radiation releases to the accessible environment. Surrogates for these particular radiological performance measures and for others will be developed in terms of site characteristics traceable to individual technical guidelines. For example, a score of "1" on the performance measure "performance with respect to nondisruptive geologic processes" might represent a site with very short ground-water travel times and a complex geologic setting that could be extremely difficult to model (guideline on geohydrology), strongly oxidizing ground-water conditions and poor sorption characteristics (guideline on geochemistry), and thermal properties such that the heat generated by the waste could decrease the isolation provided by the host rock (guideline on rock characteristics), etc. Such steps are necessary because the data required to calculate reliably cumulative releases and release rates are not available before site characterization.

Step 3: Verify Independence Assumptions

As described in Section II, independence assumptions are necessary for an accurate overall evaluation of a site to be obtained by weighting and adding evaluations against distinct performance measures. The general approach for verifying the necessary independence assumptions is to consider special cases that would contradict the assumption. If none are found, independence is taken as a reasonable assumption.

One condition that permits the additive form to be valid is that the performance measures are "additive independent" of one another. Performance measures Z_1 and Z_2 are said to be additive independent if the "preference order for lotteries (gambles in which possible values for Z_1 and Z_2 occur with specified probabilities) does not depend on the joint probability distributions of these lotteries, but depends only on their marginal probability distributions" (Keeney, 1980, page 231). To illustrate this condition in more concrete terms, suppose that Z_1 and Z_2 are performance measures representing environmental impacts and economic costs, respectively, and suppose that there are two possible lotteries that are compared. The

Objective: Minimize health effects due to anticipated (non-disruptive) processes

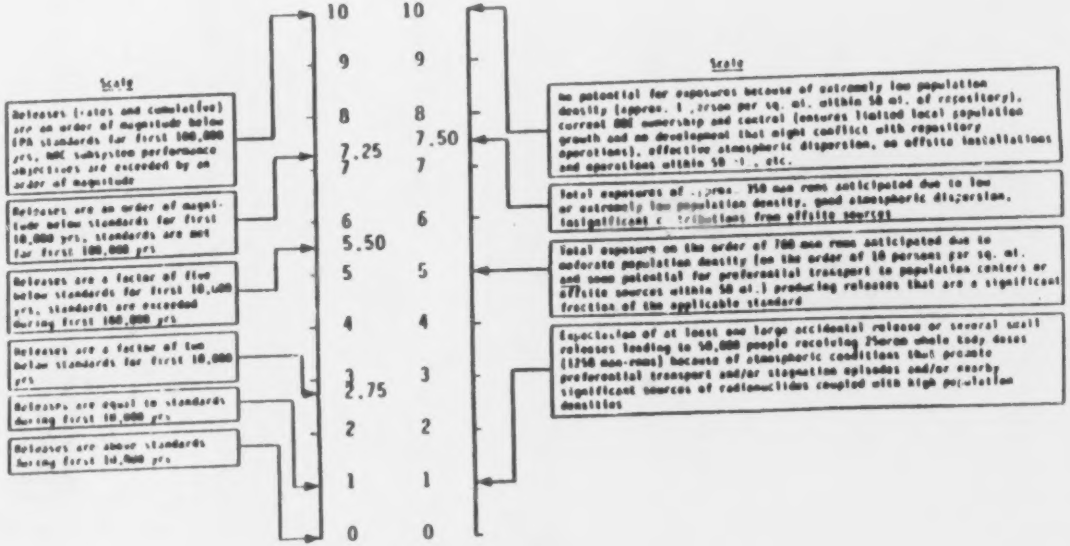
Performance measure: cumulative releases, release rates, and subsystem performance over 10,000 and 100,000 years

Symbol: U_1

Objective: Minimize preclosure radiological health effects of the repository

Performance Measure: Expected exposure based on population density, site ownership and control, meteorological conditions, and offsite installations and operations

Symbol: P_1



Scale

Releases (rates and cumulative) are an order of magnitude below EPA standards for first 100,000 yrs, NRC subsystem performance objectives are exceeded by an order of magnitude

Releases are an order of magnitude below standards for first 10,000 yrs, standards are met for first 100,000 yrs

Releases are a factor of five below standards for first 10,000 yrs, standards are exceeded during first 100,000 yrs

Releases are a factor of two below standards for first 10,000 yrs

Releases are equal to standards during first 10,000 yrs

Releases are above standards during first 10,000 yrs

Scale

No potential for exposures because of extremely low population density (approx. 1 person per sq. mi. within 50 mi. of repository), current DOE ownership and control (ensures limited local population growth and no development that might conflict with repository operations), effective atmospheric dispersion, no offsite installations and operations within 50 mi., etc.

Total exposures of approx. 750 man rems anticipated due to low or extremely low population density, good atmospheric dispersion, insignificant contributions from offsite sources

Total exposure on the order of 700 man rems anticipated due to moderate population density (on the order of 10 persons per sq. mi. and some potential for preferential transport to population centers or offsite sources within 50 mi.) producing releases that are a significant fraction of the applicable standard

Expectation of at least one large accidental release or several small releases leading to 50,000 people receiving 25mrem whole body doses (1250 man-rems) because of atmospheric conditions that promote preferential transport and/or stagnation episodes and/or nearby significant sources of radionuclides coupled with high population densities

Figure 9. Sample performance measures.

first yields equal chances for the favorable outcome (Z_1 low, Z_2 low) and the unfavorable outcome (Z_1 high, Z_2 high). The second yields equal chances for the mixed outcomes (Z_1 low, Z_1 high) and (Z_1 high, Z_2 low). Note that both lotteries have an equal (namely, 0.5) chance at either (Z_1 low, Z_1 high) and that both also have an equal 0.5 chance at (Z_2 low, Z_2 high). Both lotteries are therefore said to have the same marginal probability distributions.

If Z_1 and Z_2 are additive independent, then one must be indifferent between the first lottery and the second.

Assuming additive independence among all performance measures, it is possible to express a site's postclosure utility, denoted U_{post}, by an additive equation. For example, if there are three postclosure-performance measures, x_1, x_2, and x_3, then

$$U_{post} = w_1U_1(x_1) + w_2U_2(x_2) + w_3U_3(x_3) \tag{1}$$

where w_1, w_2, and w_3 are weights (scaling factors) and U_1, U_2, and U_3 are single-attribute utility functions defined over the respective performance measures x_1, x_2, and x_3. Similarly, if there are 11 preclosure-performance measures, then the preclosure utility of a site can be computed from an additive equation of the form

$$\begin{aligned} U_{pre} = {} & k_1V_1(y_1) + k_2V_2(y_2) + k_3V_3(y_3) + k_4V_4(y_4) + k_5V_5(y_5) \\ & + k_6V_6(y_6) + k_7V_7(y_7) + k_8V_8(y_8) \end{aligned} \tag{2}$$

where k_1 through k_8 are weights and V_1 through V_8 are single-attribute utility functions defined over the preclosure-performance measures y_1 through y_8, respectively. The overall utility is then given by

$$U_{overall} = k_{post}\,U_{post} + k_{pre}\,U_{pre} \tag{3}$$

Step 4. Assess Single-Attribute Utility Functions

Performance measures are important proxies for determining how well a site meets a particular objective. However, by themselves, these measures do not quantify performance against a particular objective. For example, it does not follow that an objective is 90 percent met just because the level of performance is 90 percent of its maximum value (i.e., the site is assigned a score of 9). Depending on the objective, it might be, for example, that most of the intent of the objective is met when the performance measure reaches only 20 percent of its maximum possible value (i.e., achieves a score of 2). Therefore, a scale is needed to represent the relative desirability of achieving different scores for the performance measures. The concept of a single-attribute (marginal) utility function provides such a scale. As noted in Section II, an extensive literature has been developed on the meaning and uses of utility functions.

Simply stated, a utility function is a mathematical expression for the subjective tradeoffs that are inherent in any judgment that one site is better than another for a repository. Logically, the values that are represented in a utility function should be those of the decisionmaker--in this case the DOE. The DOE will incorporate as appropriate the values of others in the value structure. For example, public comments on the weighting allocations among guideline sets and groups presented in Chapter 7 of the draft EAs will be considered. Methods for accomplishing this integration are discussed by Keeney and Raiffa (1976) and Keeney (1980).

Marginal utility functions that reflect the preferences of an individual can be derived by assessing a few points on the function corresponding to various values of the performance measure and then fitting a smooth curve. Using techniques recommended in the decision-analysis literature, decision analysts experienced in utility assessment are constructing utility functions in interviews with DOE management, staff, and consultants. For example, a technique being used to assess the single-attribute utility function U_1 is the midpoint method (Changkong and Haimes, 1983). This procedure involves successively identifying levels of performance whose utilities (desirabilities) seem to be halfway between already established utilities. To illustrate, consider a utility function for measuring performance with respect to nondisruptive processes (x_1). Arbitrary utilities of 0 and 100 may be assigned to performance levels for x_1 of 1 and 10, respectively. Various intermediate performance levels are then selected until a level, denoted x', is found such that it is judged to be equally desirable to change a site whose performance level is $x_1 = 1$ to the level $x_1 = x'$ as it would be to change a site whose performance level is $x_1 = x'$ to the level $x_1 = 10$. The resulting performance level is called "the midpoint" because the utility function evaluated at this point is midway between the utilities of the other two outcome levels that were considered. This same process is repeated to find other midpoints (e.g., the midpoint between $x_1 = 1$ and $x_1 = x'$) until enough are identified to permit fitting a smooth curve. A sample utility curve for U_1 is shown in Figure 10. For comparison, a sample utility curve for U_2 is shown in Figure 11.

Step 5: Assess Scaling Factors or Weights

The constants $w_1, w_2, \ldots, k_1, k_2, \ldots, k_{pre}$, and k_{post} in Equations 1, 2, and 3 represent scaling factors or weights designed to account for the relative value of trading off performance on one performance measure for another. The scaling factor assigned to a given performance measure defines the increment of overall utility associated with increasing that measure's performance outcome from a score of 1 to a score of 10. Clearly, the scaling factor must depend on the definitions of "1" and "10," which, as described in step 2, must be consistent with the siting guidelines. In other words, the scaling factors must be consistent with the definitions established for performance-measure scores.

As outlined in Section II, the method generally recommended for establishing scaling factors that reflect preferences is to fix all but two of the performance measures and then to allow these two to vary, in order to find combinations that the policymaker finds equally preferable. In this case, the multiattribute utilities will be equal by definition, and therefore it is possible to generate equations in which the weights are unknowns. The solution of these equations then yields the values for the weights.

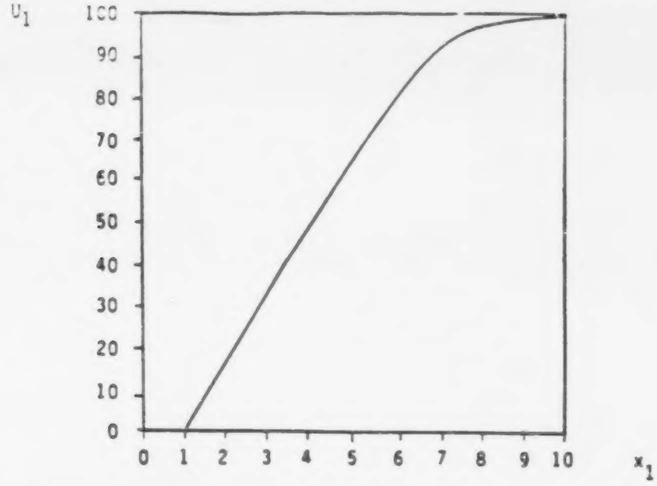


Figure 10. Sample single-attribute utility curve for postclosure performance with respect to nondisruptive events.

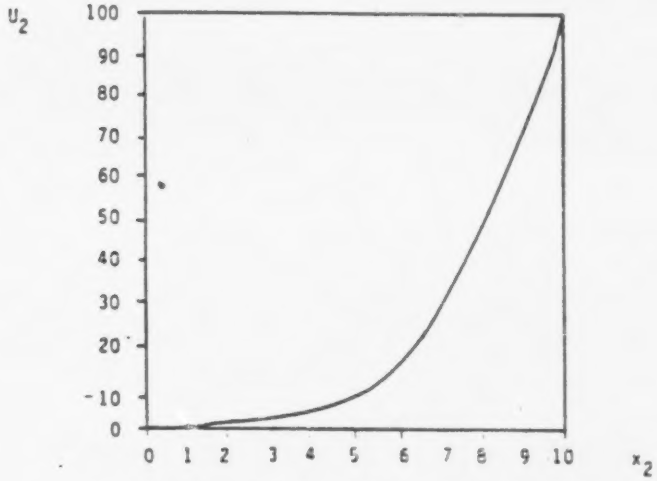


Figure 11. Single-attribute utility curve for performance under disruptive geologic events and processes.

To illustrate the methods, consider preferences for trading off performance between performance measures x_1 and x_2. As shown in the example below, different radionuclide-release scenarios may be considered until two are found that are regarded as equally undesirable:

	Site A		Site B	
x_1	10	(Releases from nondisruptive processes are 10 times lower than the standard during the first 100,000 years)	1	(Releases from nondisruptive processes are equal to the standard during the first 10,000 years)
x_2	1	(Releases from disruptive geologic events are 10 times higher than the allowable releases for the first 10,000 years)	4	(Releases from disruptive geologic events are three times higher than the allowable releases for the first 10,000 years)
x_3	1		1	

From Equation 1 and Figures 10 and 11 (and the fact that utilities are defined to equal 0 and 100 for scores of 1 and 10, respectively), the postclosure utility of site A is

$$U^A_{post} = w_1U_1(10) + w_2U_2(1) + w_3U_3(1) = 100w_1$$

Similarly, the postclosure utility of site B is

$$U^B_{post} = w_1U_1(1) + w_2U_2(4) + w_3U_3(1) = 5w_2$$

Because indifference between point A and point B implies equal utility,

$$100w_1 = 5w_2$$

To obtain additional relationships among the weights, other tradeoffs among various levels of performance measures must be considered.

As mentioned previously, in the case of preclosure, the scaling factors are partially constrained by the requirements of the siting guidelines. The guidelines specify that the order of importance for the three preclosure-guideline groups, from greater to lesser importance, is (1) preclosure radiological safety; (2) environment, socioeconomics, and transportation; and (3) ease and cost of siting, construction, operation, and closure. Suppose the correspondence between performance measures and preclosure-guideline groups were as follows:

Guideline group	Performance measure
Preclosure radiological safety (repository)	Radiological safety of repository operation (y_1)
Environment, socioeconomics, and transportation	Radiological safety of waste transportation (y_3)
	Nonradiological safety of waste transportation (y_4)
	Performance with respect to the natural environment (y_5)
	Performance with respect to socioeconomics (y_6)
	Performance with respect to transportation costs (y_8)
Ease and cost of siting, construction, operation, and closure	Nonradiological safety of repository workers (y_2)
	Performance with respect to repository costs (y_7).

The relative-importance stipulation in the guidelines is interpreted as requiring that the total weight given to the utility of performance for measures associated with preclosure radiological safety must be greater than the total weight given to the utility of performance for measures associated with the environment, socioeconomics, and transportation. Similarly, the total weight given to the utility of performance for the environment, socioeconomics, and transportation must be greater than the total weight given to the utility associated with the ease and cost of siting, construction, operation, and closure. Thus,

$$k_1 > k_3 + k_4 + k_5 + k_6 + k_8 > k_2 + k_7 \qquad (4)$$

The approach for generating the scaling factors consists of deriving tentative values, using methods similar to that described above, and then checking whether those values satisfy the above equation. In all cases, the tradeoff judgments are being provided by DOE management and staff most familiar with repository siting objectives and are chosen, wherever possible, so as to be consistent with tradeoffs established by other social decisions. To the extent that judgmental value tradeoffs produce scaling factors that violate Equation 4, these tradeoffs are adjusted until consistency with Equation 4 is obtained.

Step 6: Assign Site Performance Scores, Compute Utilities, and Perform Sensitivity Analysis

After the development of single-attribute utility functions and nominal scaling factors, Equations 1, 2, and 3 are applied to compute preclosure, postclosure, and overall utilities for each site. Sensitivity studies are then undertaken to identify critical numerical assumptions and the sensitivity of the overall utilities to these assumptions.

The information contained in the final EAs is being used to summarize the expected performance of each site by estimating appropriate values for the performance measures established in step 2. In the absence of complete models for simulating site performance, performance-measure scores are being obtained as judgments provided by panels of experts. The scores assigned by each panel must be consistent with the definition of the performance-measure scales and must logically account for all characteristics of the site represented in the associated influence diagram. If there is substantial uncertainty about the value of a performance measure for a given site, alternative scores may be specified with associated probabilities.

For an example of how utilities are being computed, consider the evaluation of overall postclosure utilities. Given the example used throughout this section, and assuming that independence is verified in step 3, the multiattribute utility theory suggests that a measure of postclosure performance that takes into account nondisruptive geologic processes, disruptive geologic events, and human interference can be obtained by using Equation 1 to calculate the expected utility. Mathematically, the calculation of expected utility can be expressed as

$$E(U_{post}) = \int [w_1U_1(x_1) + w_2U_2(x_2) + w_3U_3(x_3)]\ dP \qquad (5)$$

where the symbols $\int$ and dP denote the process of computing all possible performance outcomes, computing the resulting utility values, weighting these values by their probabilities, and taking the resulting weighted average.

To simplify the application of Equation 5, it might be assumed that there is no significant uncertainty in the specification of the performance outcome x_1 for a site. Furthermore, uncertainty in the specification of performance outcomes x_2 and x_3 might be assumed to be due only to uncertainty in the occurrence of disruptive geologic events and human interference. The occurrences of disruptive geologic events and human interference might be assumed to be probabilistically independent. With these assumptions, Equation 5 can be expressed as

$$E(U_{post}) = w_1U_1(x_1) + w_2\int_{S_2} U_2[x_2(S_2)]p_2(S_2)dS_2 + w_3\int_{S_3} U_3[x_3(S_3)]p_3(S_3)dS_3 \qquad (6)$$

where $x_2(S_2)$ represents the performance outcome with respect to disruptive geologic events given a disruptive-event scenario S_2; $x_3(S_3)$ is the performance outcome with respect to human interference given a human-interference scenario S_3; $p_2(S_2)$ is a probability density function describing the likelihood of various disruptive-event scenarios; and $p_3(S_3)$ is a probability density function describing the likelihood of various human-interference scenarios.

Similarly, the expected utility of preclosure, assuming 8 preclosure performance measures, as in the previous examples, would be given by

$$E(U_{pre}) = \int [k_1V_1(y_1) + k_2V_2(y_2) + k_3V_3(y_3) + k_4V_4(y_4) + k_5V_5(y_5) + k_6V_6(y_6) + k_7V_7(y_7) + k_8V_8(y_8)]dP \qquad (7)$$

If there is no significant uncertainty in the assignment of performance scores, Equation 2 could be used directly to compute preclosure utilities.

The single-attribute utility scores and associated probabilities assessed for each siting objective are being aggregated to obtain an overall expected utility and associated probability distribution on utility summarizing overall site attractiveness.

The output of this final step for each site will be a point estimate if there is little uncertainty about the performance-measure scores that represent the ultimate attractiveness (total utility) of the site. Alternatively, the final results could be presented as probability distributions, which would permit both the expected values and the uncertainty in the values to be compared among sites.

Sensitivity studies will be performed to explore the effect of changing assumptions and differences of opinion. For example, significant differences in the utility functions assessed by different individuals can be organized, and a sensitivity analysis can be used to determine the extent to which such differences alter the relative evaluation of sites.

Different weights representing a range of different views will be developed. In particular, a range of postclosure versus preclosure weights, consistent with an assumption that postclosure be assigned greater importance than preclosure, will be considered. In addition, the weighting relationship among the three preclosure-guideline groups will be varied, again consistent with the siting guidelines (see the discussion of step 5). The significance of these differing opinions will be investigated through sensitivity analyses. An important advantage of the decision-aiding methodology is that extensive sensitivity analyses representing differing value judgments can be developed quickly and inexpensively. This ability to answer many "what if" questions decreases the likelihood that inappropriate values will be used in the decision process and increases the likelihood that the most advantageous group of sites will be identified and recommended for characterization.

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QUESTION 7b: When is the National Academy of Sciences review to be completed? What impact will this review have on the selection process, given the fact that the results will be available only weeks before the Environmental Assessments are finalized?

ANSWER: The methodology description was transmitted to the Board on Radioactive Waste Management on September 16, 1985. Written comments from the Board are expected by November 15, 1985.

The impact of the NAS's review will depend on the nature of the comments. For example, if the Board finds that the proposed ranking methodology is fundamentally flawed in some fashion, then the Department would take the time and necessary steps to remedy such problems. It should also be noted that the Department met with the Board on October 1-3, some six weeks prior to receipt of the formal written comments.

QUESTION 8: Your current estimate of the costs of an MRS facility is in the neighborhood of $1 billion. How accurate is this estimate? As I recall, your estimate of the cost of site characterization has gone up dramatically as you've "gotten smarter." Is this the same phenomenon likely to occur with respect to the MRS cost estimate?

ANSWER: The program's experience with increasing cost estimates for repository site characterization has been primarily due to the first-of-a-kind nature of many of the research activities and geologic investigations involved. In contrast, the MRS cost estimates are being developed based on specific sites and specific facility designs. As a result, we will have confidence in the accuracy of the cost estimates to be presented in the proposal to Congress for an integral MRS. In this regard, our cost reviews continue to indicate that initial capital costs for an integral MRS facility will be approximately $1 billion. Yearly operating costs will depend on the final facility configuration and are expected to range from $60 million to $110 million. All of the above costs are given in 1985 dollars.

QUESTION 9: Concerning candidate sites for the MRS, at what point in the decision process is DOE required to notify and seek concurrence of the state?

ANSWER: The Department believes Congressional approval of an MRS facility triggers the requirement that the Department conduct relations with the State subject to the provisions of sections 115, 116(a), 116(b), 116(d), 117, and 118. These sections provide for notification, consultation and cooperation agreements, and the right of the host State to give a notice of disapproval.

The Department has chosen a policy of working closely with the potential MRS host State during proposal development to assure an understanding of the proposal by Tennessee State and local officials, and the public. Even though not specifically required in the NWPA, the Department believes the State is entitled to such consultations as a matter of sound public policy and that such consultations are consistent with the spirit of the NWPA. Further, OCRWM indicated in the Mission Plan its intention to keep the States and the public apprised of program activities. The Department has supported this policy with grant funding for Tennessee State and local participation in briefings, development of comments on the program, and participation during Congressional consideration of authorization. Hopefully, the early and extensive coordination that the Department has voluntarily undertaken with Tennessee will result in a form of State concurrence with the proposed MRS program prior to authorization.

QUESTION 10: What are the advantages of MRS in terms of adding flexibility to the program?

ANSWER: The flexibility added to the total waste management system due to the existence of an integral MRS facility cuts across nearly all operational aspects of the system from the operating commercial reactors to the final waste emplacement at a geologic repository. In designing an overall waste management system, provisions must be made to handle a variety of contingencies. There exist today a number of technical and institutional uncertainties in the system, including such areas as repository package design (allowable heat and radiation levels, package size and material requirements, etc.); waste acceptance schedules and priorities; and transportation logistics (cask sizes and designs, routing of shipments, etc.). A number of these uncertainties will not be resolved in the near future and some may not be resolved until a repository is fully licensed by the NRC.

With an MRS facility added to the system, the key and complex functions of waste acceptance and waste emplacement would become independent of one another. With an MRS acting as a buffer, waste acceptance activities would not be affected by temporary slowdowns or other operational problems that could be experienced at the repository.

They could also begin sooner with packaging facilities already under construction or built at the time the repository license is issued and the final package design is firmly established. Such an MRS would contribute to a firmer schedule for spent fuel acceptance from the operating reactors to accommodate the DOE's contractual commitments to the utilities paying fees into the Nuclear Waste Fund. The transportation system would benefit from an MRS not only from a reduction in overall shipment miles but from an early identification of the overall transportation network that would facilitate system planning and help provide resolution of institutional issues for affected localities. Other benefits, providing waste system flexibility due to an integral MRS, include the potential for servicing a second repository, if authorized, and the use of MRS to facilitate decommissionings of commercial reactors by receiving and storing spent fuel earlier and in greater amounts from those reactors facing shutdowns, having reached the end of their useful service lives.

QUESTION 11: What kind of auditing and accounting is in place to study the cost impacts of each program decision you make along the way, to assure that the overall program is conducted in a cost-effective manner?

ANSWER: As a part of the soon to be issued Program Management System (PMS), the Office of Civilian Radioactive Waste Management (OCRWM) is establishing a Change Control Board to control the waste disposal system configuration. The Change Control Board, comprised of senior OCRWM officials, will review and approve/disapprove changes to the reference disposal system. Cost-benefit is a major consideration in the Board's review of any change to the system. Two of the tools which will be available to the Board are the Program Management Information System, currently under development, which measures cost and schedule performance against approved baselines, and the annual total system life-cycle cost (TSLCC) analyses. Prepared as an integral component of the annual analysis of the adequacy of the current 1 mil/kwh fee, the TSLCC estimates total costs of the reference system over the life of the program. Potential changes to the reference system can then be analyzed to determine their cost impacts.

QUESTION 12: Many people are concerned that the defense waste portion of the program be costed out in an equitable manner. To what extent will the public be allowed to comment on the cost analyses for these defense wastes?

ANSWER: The Office of Civilian Radioactive Waste Management and the Office of Defense Programs have been conducting analyses of potential methodologies for equitably allocating the cost of developing, constructing and operating repositories between defense and commercial wastes. Upon completion of these analyses, the Department will issue a *Federal Register* notice soliciting public comments on the proposed methodology for calculating a fee for disposal of defense waste. After receipt and consideration of public comments, the Department's recommendation as to the fees to be paid into the Nuclear Waste Fund for the disposal of defense waste will be incorporated into the normal Congressional authorization and appropriations process.

QUESTION 13: At what point in the program does DOE plan to get site-specific in terms of transportation routes? What problems are foreseen with respect to transportation issues?

ANSWER: DOE expects to start route-specific cost/risk analyses in the early 1990's, several years before shipments would begin. A planning effort will be initiated next year (1986) to determine the type of data to be gathered and how the analyses will be structured. OCRWM will work with the States and Tribes in this effort.

For the route-specific analysis, representative, logical, possible routes will be identified for transporting spent fuel from individual reactors to the MRS (by truck and rail) and then to potential repository sites (by rail) if the MRS is approved by Congress; or from reactors to repository only (by truck and rail), should an MRS not be approved; or both cases, if approval of the MRS is uncertain at the time. Actual highway routes will be selected by the States within Department of Transportation guidelines after a repository site has been selected, and as the transportation program progresses closer to actual shipments which would begin no earlier than 1996.

The main problem that is foreseen with respect to transportation is that the public perception of the risks of transporting nuclear waste is much higher than the actual scientific risk estimates. The public must be assured of the safety of the transportation system.

QUESTION 14: Please explain why some of the defense wastes at the Hanford site will remain there, and what are the potential environmental impacts of leaving this waste in its present form and condition.

ANSWER: A decision for the final disposal of high-level and transuranic radioactive wastes at the Hanford site will not be made until an Environmental Impact Statement (EIS) and Record of Decision are issued. An internal draft of the Hanford Defense Waste EIS has an alternative for in place stabilization and disposal of certain Hanford Defense wastes at Hanford which would remain if it is shown that worker risks and overall costs are reduced while providing adequate protection to the public health and safety. Other alternatives including the removal, processing, transportation, and disposal in a geologic repository of these wastes will also be presented in the EIS. The Draft EIS is expected to be issued in February 1986 and will discuss and compare the potential environmental impacts of the major alternatives.

QUESTION 1: Describe the Department's options for providing incentives (such as impact assistance, upgrading of transportation facilities, payments in lieu of taxes, compensation, or colocation of additional Federal facilities) to the State and locality that contains the site of the integral MRS facility.

ANSWER: There are two basic types of incentives that could be provided to a State and locality hosting an integral MRS facility. The first type would be direct incentives, such as impact assistance, the concept of "tax equivalency", or other benefits that, for example, could be negotiated through a written consultation and cooperation agreement after MRS approval. The second type would be indirect incentives, such as spin-off manufacturing industries that may result from the operation of an MRS. Both types of incentives are further discussed.

Impact assistance is currently applicable to the MRS under Section 141(f) of the NWPA. Under this section, impact assistance permits only narrowly defined impact mitigation. These payments would likely be restricted to "planning, construction, maintenance and provision of public services" related to the siting of an MRS facility. Implementation and determination of impact assistance for a local government hosting the MRS would be done through a Federal rulemaking process, as required by the NWPA.

The concept of "tax equivalency" under Section 116(c) of the NWPA currently applies to the repository program. We believe that it should apply equally to the MRS. In our MRS proposal that will go to Congress in January 1986, we expect to recommend that the concept of "Grants-Equal-to-Taxes" be supported in any MRS approval language. Under the "tax equivalency" concept, revenue/grant levels could be calculated so as to mirror amounts taxing jurisdictions would receive if they were taxing a private activity.

In regard to consultation and cooperation (C&C) agreements, Section 117(c) provides for written agreements between DOE and the State concerning repository operations. (This section is also applicable to the MRS). It is possible that any incentives not covered by impact assistance or "tax equivalency" concepts could be negotiated in a written agreement between the State and DOE if the MRS is approved. It is possible that these written agreements could include local government incentives.

Indirect incentives may take the form of spin-off industries. One of the largest direct spin-offs identified to date would probably be the concrete storage cask manufacturing, which could be done "in house" or purchased from a private vendor on land adjacent to the site. For 15,000 MTU licensed storage, over 1,800 casks would be required at approximately $160,000 each (1985 dollars), thus cost approximately $300 million (1985 dollars). In addition, canister manufacturing locally is possible with projected total sales in the $500 to $600 million range. Depending upon the geologic media eventually selected for the repository, additional substantial packaging costs, for materials or labor, could be incurred at the MRS site. As a focal point for transportation activities, a substantial portion of the $1 billion to $3 billion expected to be spent on transportation could be spent in the MRS area. For example, transport casks could also be manufactured in the region, which would also be a large revenue producer. Specialized service requirements, maintenance, quality assurance, material handling, data systems management, and telecommunications would be revenue producers. Process consumables should generate an additional total over $100 million. Possible new work in areas such as metals technolgy, hazardous materials management and packaging, laser cutting, and robotics could generate additional, and as yet unmeasurable, spinoff industries.

QUESTION 2: What sort of incentives are allowed under existing law? What legal impediments exist to providing benefits to such a state or locality in return for the service rendered through MRS siting?

ANSWER: The NWPA permits certain incentives for repository siting but, by omission, restricts the scope of incentives available for MRS siting. Section 116(c), Financial Assistance, applicable for repository siting, authorizes payments under three categories: impact mitigation, grants-equal-to-taxes, and grants authorized by written agreement entered into pursuant to subsection 117(c). In contrast to 116(c), the parallel section applicable to MRS siting, Section 141(f), Impact Assistance, permits only narrowly defined impact mitigation. These payments are restricted to "planning, construction, maintenance, and provision of public services related to the siting of such facility." The NWPA also omits written agreements that could be negotiated between DOE and units of local government through the consultation and cooperation process, or a less formal process.

QUESTION 3: Describe the benefit package that you would like to make available to the State and locality where the MRS is sited.

ANSWER: We will be better able to answer this question once the State of Tennessee and local communities are further along in their efforts to evaluate the potential impacts of an MRS and measures that would be necessary to offset these impacts. As discussed in our response to question one, at this time we envision a desirability to provide direct benefits to the State and locality where an MRS is sited. We expect to recommend that any approving language for an MRS include a provision that makes the "tax equivalency" concept (grants-equal-to-taxes) applicable to the MRS. Second, we would expect to use the consultation and cooperation (C&C) and written agreement process that is currently applicable to the MRS to negotiate any other benefits. The C&C process is currently authorized in the NWPA for the repository and MRS program. Such a consultation process and/or written agreement could address benefits for local governments. Third, we would expect to comply with the impact assistance provisions of the NWPA that currently apply to the MRS. Fourth, as previously pointed out, we believe that the spin-off industries may provide benefits to the State and locality where the MRS is sited.

QUESTION 4: What is the Department doing in this regard now?

ANSWER: The Department has been working very closely with the State and locality where the MRS would potentially be sited. Incentives for MRS siting are being discussed as a subset of overall socioeconomic issues relating to the MRS siting. As noted earlier, a grant has been provided to the State of Tennessee to assist them in their evaluation of MRS impacts.

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QUESTION 5: What is the status of the negotiations with DOE defense programs for acceptance of defense nuclear waste?

ANSWER: The Office of Civilian Radioactive Waste Management and the Office of Defense Programs have been actively analyzing potential methodologies for the calculation of a defense waste disposal fee based on allocation of costs. Significant progress has been made in these analyses. This effort will culminate in a *Federal Register* notice which will solicit public comments on a proposed calculation methodology. To date, final agreement on the fees for the disposal of defense wastes has not been reached.

QUESTION 6: How would the defense program pay for waste disposal?

ANSWER: Upon completion of analyses of methodologies for the equitable allocation of costs between defense and commercial wastes, the Department intends to issue a *Federal Register* notice soliciting public comments on a proposed methodology for the calculation of a defense high-level waste disposal fee. After consideration of public comments, the Department's recommendation as to the amount and timing of payment of a defense high-level waste disposal fee will be incorporated into the normal Congressional authorization and appropriations process.

QUESTION 7: Would the defense programs pay a fixed amount for waste disposal or an open-ended amount like electric utility ratepayers? Why or why not?

ANSWER: The defense fee will not be a fixed amount. As is the case with electric utilities, provision will be made to adjust the defense waste fees up or down to ensure full cost recovery as required by the Nuclear Waste Policy Act (NWPA). Analysis of the adequacy of the defense waste fees would be accomplished as part of the annual analysis of the adequacy of electric utility fees required by the NWPA, and any recommendation for adjustment of the fee would be incorporated into the normal Congressional authorization and appropriations process.

QUESTION 8: What comparison can be made between the 1.0 mil per kilowatt hour paid by utility ratepayers and the fee to be paid based on the production of waste by the defense programs? Explain the methodologies and assumptions you are considering for such a comparison.

ANSWER: The 1 mil per kilowatt hour fee paid by electric utilities may or may not be strictly applied to defense high-level wastes due to the differing processes by which the wastes are generated. Several methodologies are being analyzed jointly by the Office of Civilian Radioactive Waste Management and the Office of Defense Programs. The objective of this analysis is to determine a comparable basis upon which to calculate the fees to be paid into the Nuclear Waste Fund for the disposal of defense high-level wastes.

QUESTION 9:	Provide your comments on the attached analysis provided to the Committee by J. R. Tomonto of the Utility Nuclear Waste Management Group.

ANSWER: The analysis, "The Evaluation of Nuclear Waste Repository Program Cost Sharing, Between Commercial and Defense Wastes," reflects a number of underlying principles that are being used in work directed towards determining a fee schedule for defense high level waste (DHLW) disposal that will be comparable with the payments currently being made by producers of commercial waste.

A major principle recommended in the analysis is that the fees charged each class of users of the disposal system cover the full costs of handling the users' wastes, including both charges that reflect an allowance for possible cost escalation and share of costs that are incurred for the benefit of all users, rather than simply the estimated incremental cost of handling a particular class of wastes. In addition, attention is given to the physical characteristics of waste.

The analysis suggests that cost sharing be based upon the EIA "no new orders" forecast for commercial nuclear power. The Office of Civilian Radioactive Waste Management uses as its reference case the EIA "mid case," which projects higher levels of nuclear electric generation and civilian high level waste than does "no new orders." The "no new orders" assumption has the effect of reducing the number of defense waste canisters by 4 to 7 percent while reducing civilian waste discharges by about 25 percent. The effect of this is to raise the projected share of disposal system use--and thus the share of total costs--for defense wastes relative to commercial wastes, although total waste disposal costs would be lower. Thus the assumption of "no new orders" has two effects: 1) charges per unit of defense waste would be raised relative to charges per unit of commercial waste and 2) the cost per unit for all wastes would be higher, since, under the "no new orders" case, the cost of a system for handling commercial wastes (which dominate the costs of a combined repository) are only about 13 percent lower under "no new orders" than under the "mid case" scenario.

The analysis suggests that "each sector (defense and commercial) is to pay a fraction of the combined-repository-program costs which is the same as that sector's fraction of the sum of the evaluated costs for separated repository programs." If fees were to be set on the basis of this principle, costs would be shifted somewhat disproportionately to the sector that is estimated to have lower separate-repository-system program costs. This is the case because, in a system in which the cost per unit decreases as the number of units handled increases, the cost per unit will be higher for the sector having the lower total separated-system costs. Thus, sharing combined disposal costs on the basis of the ratio of separated-system costs would have the effect of raising the share of costs charged to the smaller user in ways that may not reflect the shares of costs attributable to each sector in a combined repository.

The costs used in the numerical example (p. 8 in the analysis paper) are "normalized to bedded salt costs...". The choice of salt as the reference medium has the effect of lowering the estimated cost of handling the relatively hot commercial wastes relative to the costs of handling defense wastes because of the excellent heat-dissipating characteristics of salt beds. Salt is only one of the four generic repository media under consideration. Therefore, the choice of salt as the sole reference case for sharing costs is not appropriate.

QUESTION 10: When would defense waste be accepted? Where would it be taken after acceptance? Would any defense waste be taken to the integral MRS? Why or why not?

ANSWER: The specific acceptance schedule for defense high-level waste has not yet been determined. The Mission Plan published in June 1985 showed two illustrative Waste Acceptance Schedules, one based on the availability and emplacement capacity of two geologic repositories, and a second incorporating an integral monitored retrievable storage (MRS) facility. Both of these schedules showed the acceptance of spent fuel beginning in 1998 and acceptance of high-level waste (waste from defense activities and waste from West Valley) beginning in 2003. That is the year when the second phase of the first repository will reach its designed acceptance capability. However, these dates are "best estimates" at this time and are currently being reviewed in the Department.

The Department's current preference would be to ship defense high-level waste directly to the repository for underground emplacement. If determined to be beneficial from a transportation standpoint, defense waste could first be shipped to the integral MRS facility and combined with other spent fuel or high-level waste for subsequent shipment to the repository. The Department has no plans at present and envisions no need to store defense high-level waste at the MRS facility.

QUESTION 11: Would this be glassified waste? What kind of glass? What facilities would be needed for glassification? Where would these facilities be located? How would they be funded?

ANSWER: Defense high-level waste is currently stored at the Savannah River Plant, the Idaho National Engineering Laboratory and the Hanford Site.

At the Savannah River Plant, defense high-level waste is stored in underground tanks. In the current reference plan, the defense high-level waste will be processed into a final waste form (e.g., borosilicate glass) starting in 1989 in the on-site Defense Waste Processing Facility. This waste form will be encased in metal canisters and stored at the site until a geologic repository becomes available to receive the waste. At the Hanford Site, the high-level waste is also stored in underground tanks. New waste is also being generated by the PUREX process, which is being used to reprocess spent fuel. In the current reference plan, the PUREX waste and the readily retrievable older waste will be processed in an immobilization plant beginning in the early 1990s. The immobilized waste will be stored at the site until it is shipped to a repository. At the Idaho National Engineering Laboratory, high-level liquid waste is being converted to a dry calcine which is stored in stainless-steel bins in underground

Question 11 cont'd:

concrete vaults. The reference plan anticipates that an immobilization facility will start operating some time after the turn of the century. Waste forms being considered include borosilicate glass and ceramics.

These facilities will be funded under the Defense Programs budget in the Department of Energy.

QUESTION 12: Describe the differences between spent fuel disposal and disposal of defense waste in terms of technology, safety precautions, licensing and cost.

ANSWER: In general, the critical parameters for defense high-level waste packages, heat output and radioactivity, are less severe for defense high-level waste packages. However, the unit volume (cannisters/MTU) of defense high-level waste is greater than commercial waste.

Specific repository and waste package designs will depend on the selected geologic media for the repository. At this point, repositories are being designed with sufficient flexibility to accept a variety of waste forms. Future designs will explicitly include defense high-level waste as a result of the Presidential decision to emplace defense waste in the repositories for civilian waste as discussed in the Mission Plan.

All defense high-level waste to be disposed of in a civilian repository will satisfy the same regulatory, licensing and environmental requirements as civilian waste, including 10 CFR Part 60 "Disposal of High-Level Wastes in Geologic Repositories" (Nuclear Regulatory Commission regulation), and 40 CFR Part 191, "Environmental Radiation Protection Standards for Management and Disposal of Spent Nuclear Fuel, High-Level and

Transuranic Radicactive Wastes" (Environmental Protection Agency standard).

The details of the allocation of costs for defense high-level waste disposal are currently under review by the DOE. They will be made available for public review and comment via a Federal Register notice at a later time.

QUESTION 13: As you know from your negotiations with the State of Washington, it is being recommended that the Federal Government accept unlimited strict liability for any accident that might occur in connection with the nuclear waste program. What is your own opinion of this proposal?

ANSWER: In regard to high-level nuclear waste storage, transportation and disposal, the Departmental policy is that: these activities should enjoy indemnity protection equivalent to other nuclear programs; that there is no basis for a separate scheme of protection; that the waiver of defenses provision should be modified to expressly provide coverage for HLW waste activities; that within reasonable limitations set by the Congress, the public should continue to be assured of a timely and facilitated source of funds for payment of claims in the event of a nuclear accident; and, that the beneficiaries of waste disposal be assessed the cost of the service. These principles should be considered in any indemnification system covering the nuclear waste program. I might add parenthetically that the question has been posed to State legislators who are advocating unlimited liability on the part of the Federal Government whether they can conceive of a situation where they would be willing to provide such uncontrolled access to State treasury funds. The answers have been negative.

QUESTION 14: As you also know, the Price-Anderson Act is up for renewal in this Committee. What are your own recommendations with respect to Price-Anderson coverage for waste facilities and for DOE contractors to the waste program?

ANSWER: The Department's position has consistently been that waste disposal operations including storage, transport and disposal are covered under the present Price-Anderson Act. However, we believe that waste activities should be specifically covered in the waiver of defenses provision to clarify procedures for facilitated settlement of claims and we continue to support the general principles stated in response to the preceding question 13 above.

QUESTION 15: Is the Nuclear Waste Fund the proper source of money to pay damages in the event of a major accident in connection with the waste program? Should the 1.0 mil per kilowatt hour fee be increased to reflect the cost of providing a pool of cash or insurance for the program?

ANSWER: Yes, we believe that liability claims arising out of these commercial nuclear waste disposal activities should be paid from the Nuclear Waste Fund.

Since the Federal Government acts as a self-insurer, it is neither a necessary nor sound financial management practice to build up a separate pool of cash reserves for this purpose.

QUESTION 16:	Describe the sorts of accidents you would recommend that a prudent manager of the waste program insure against. How likely are these accidents?
ANSWER:	The transportation of nuclear materials over U.S. highway and railway systems has been conducted for more than a quarter of a century with an excellent industrial safety record. While there have been a number of collisions and trucks overturning while carrying nuclear materials, in none of these cases has anyone been harmed by the release of radioactive materials. While the Department takes every effort to prevent mishaps, such conventional shipping and handling accidents can be anticipated. Protection of the public and the industrial workers handling nuclear materials is achieved by close Federal regulation, limitations on container contents according to quantities and types of radioactivity, and design of the shipping packages and containers to ensure that nuclear materials are contained even in the event of a severe accident. Workers compensation and normal non-nuclear casualty and collision insurance is provided by contractors on a cost-reimbursement basis.

It is difficult to calculate clean-up costs of a nuclear waste incident without a rather detailed grouping of assumptions, including such variables as quantities and type of waste involved, age of the

Question 16 cont'd:

waste material, a source term release analysis taking into account these variables, details on the location of the incident in terms of population density, and a myriad of other assumptions necessary to form a basis for developing accident scenarios. Earlier accident scenarios were made using 150-day old spent-fuel whereas current plans call for transporting only older (e.g., ten-year old fuel rods) and cooler cargo. Also, source-terms are presently being reexamined.

Lower source-term projections have led the Nuclear Regulatory Commission (NRC) to reexamine Federal regulations for the safeguarding of shipments. The nature and types of operations involved in nuclear waste storage and disposal facilities are such that off-site releases do not seem to present significant or unique problems not encountered in other nuclear facilities. In summary, coverage under the Price-Anderson system is sufficient to encompass accidents or activities involving damage or injury for a broad range of situations. This system of coverage has proven itself over a number of decades and has been

Question 16 cont'd:

favorably reviewed for possible application to other industrial activities. We would hope that this very broad coverage that was originated and applied first to nuclear reactors will continue to be extended to waste programs.

The Department is sponsoring two studies of nuclear waste cycle accidents. One study, by DOE's Pacific Northwest Laboratory, is aimed at developing a database which could be used in evaluating risk levels for alternative waste system packaging and handling designs and configurations. The evaluation of hardware alternatives will be based on system risks and costs, and on regulatory and institutional factors. At present, a literature survey has been completed. It is expected that a risk database will be compiled by the fall of 1986.

The objective of the other study, by DOE's Brookhaven National Laboratory (BNL), is to identify plausible accidents throughout the portion of the nuclear fuel cycle dealing with spent fuel and high-level waste accepted by DOE for storage and disposal in a commercial geologic repository and to evaluate the human health,

Question 16 cont'd:

environmental, and economic risks of those accidents. This study will cover the preclosure period of a repository and the active monitoring period after repository closure. (Long-term risk and safety aspects of the repository will be the principal subject of site characterization and will not be covered by the BNL study.) The present schedule calls for BNL to complete a literature survey and an evaluation of methods for assessing risks in the spent fuel and high-level waste management system by the end of this year. In subsequent tasks, BNL will develop generic risk assessment requirements which may be needed in licensing; survey State and Tribal concerns and needs for risk information; perform risk analyses with state-of-the-art assessment methods, covering generic types of accident events, probabilities and consequences involved in handling spent fuel and high-level waste; develop alternative approaches for dealing with costs as a measure of accident consequences; document these studies in a "handbook" of generic accident event sequences and consequences; and provide special reports as needed. The handbook will contain guidance for application to site-specific situations. A final report of the BNL study is presently scheduled for the fall of 1986.

QUESTION 17: What studies have you done on potential accidents and the associated risks to the public? Please provide the Committee with a list of these studies and copies of the ones on which you are relying.

ANSWER: Since it will be a number of years before these commercial waste facilities begin operating, sufficient time exists to conduct special risk assessment studies in advance of the initiation of such operations. Two such analytical investigations have been initiated and are currently underway at Brookhaven National Laboratory and Pacific Northwest Laboratory. The results of these studies will be provided to the appropriate Congressional oversight committees.

QUESTION 18:	Provide the Committee with a legal analysis of the authority available under the NWPA to provide casks of other assistance for at-reactor storage of spent nuclear fuel that is owned by a utility. At one time this option was under consideration in the event that a repository or MRS is unavailable by the 1998 date at which DOE is obligated under the Act to begin accepting spent fuel. Your analysis should discuss in detail the underlying statutory authority for such an option.
ANSWER:	Scenarios can be constructed consistent with the NWPA under which DOE could ensure the availability of casks to utilities. For example, this could be done as part of the DOE mandate under Subtitle B to encourage and expedite the effective use of necessary additional storage at the site of each civilian nuclear power plant. Alternatively, it could be done by the early deployment of transportable casks needed to service the first repository. Its inclusion in the Draft Mission Plan was intended to solicit reaction to help determine whether such an option should be further investigated. It was believed that if the option were shown to be deserving of further, more extensive consideration and be further pursued, additional statutory authority could be sought, if needed, to include it in a contingency planning base.

QUESTION 19: Describe in detail what the dangers would be and the likely extent of contamination that would result if, in a transportation accident, a cask containing spent fuel ruptured and fuel rods were broken so that the spent fuel itself was exposed to the environment.

ANSWER: Based on calculations performed for the final Environmental Assessments, to be published around the end of 1985, the impact rupture of a spent fuel cask could result in the environmental release of up to about 520 curies of radioactive materials due to damage to the fuel and its cladding. The radioactive release would consist of about 512 curies of noble gases and about eight curies of cobalt-60 and other nuclides. The maximum radiation dose projected to an individual not directly involved in transportation of the spent fuel (e.g., a State or local law enforcement officer responding to the accident) would be about 180 millirem from inhalation* of airborne radioactive materials and about 20 millirem from direct exposure to the contaminated ground and air. After passage of the airborne radioactivity, about 1.5 acres of land could be contaminated to a level that could initially provide a radiation dose rate greater than that routinely allowed workers in a nuclear power plant (i.e., 5000 millirem per year). The radiation dose to the population over the next 50 years that might result from the materials deposited on the ground from the accident if no evacuation or cleanup was made is about two person-rem for a rural area (with six people per square kilometer) and about 940 person-rem for an urban area (with 3,861 people per square kilometer). These could result in about .0004 and 0.2, respectively, cancer fatalities over the 50 years following the accident.

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*The dose from inhalation is a 50-year (lifetime) dose commitment. Since most of this dose commitment comes from Cobalt-60, it occurs in the first 10 years after the accident. The inhalation dose expressed here is also a whole-body equivalent (cancer risk weighted dose).

QUESTION 20: Describe how cleanup would proceed and what evacuation, if any, might be required. Over what area around the accident would normal activity likely be disrupted?

ANSWER: After the initial emergency response to the accident to rescue injured persons and evacuate and secure the immediate area, a trained and equipped team would contain and remove the spent fuel cask and monitor, evaluate and delineate the actual distribution of radioactive material in the area. Because the noble gases would have been dispersed and dissipated to the atmosphere only about eight curies or less would remain in the contaminated area. If all persons would be evacuated who would receive more than an annual natural background dose (about 100 mrem) from the contaminated area during the estimated one-month cleanup time, an area of less than ten acres would require evacuation. It is reasonable to assume that such an area could be evacuated within a few hours.

QUESTION 21: How long would clean-up take?

ANSWER: The time required for the cleanup of a spent fuel accident would depend upon many factors including the amount of radioactivity released, its distribution in the area, the characteristics of the contaminated area (e.g., urban or rural) and the number of persons located in the vicinity. The cleanup of all land contaminated to a level of 0.5 microcuries per square meter or more (estimated to be about 65 acres) would require about one month to complete. Contamination at 0.5 microcuries per square meter represents a maximum annual dose rate to individuals of about 125 mrem for the first year after the accident. It decreases year-by-year due to decay of the nuclides.

QUESTION 22: At the Committee hearing Mr. Rusche said that there are circumstances under which the amount of nuclear waste transported in Kentucky would be reduced with an MRS located in Tennessee relative to a system with no MRS. Please explain.

ANSWER: The DOE and the States have not determined the specific shipping modes or routes, so that actual numbers of shipments through a particular State cannot be accurately determined at this time. It is possible that an MRS could decrease the number of shipments through Kentucky. For example, this could occur if the Richland, Washington, site were selected. In the "no MRS case," the shipments from the southeastern States could pass through Kentucky on the way to Richland, Washington. With an MRS these shipments would terminate in Tennessee and be replaced with north central State shipments that could pass through Kentucky to Tennessee. A much smaller number of larger sized shipments (consolidated fuel in dedicated trains) would be made from the MRS to the repository. The result is a crude projection of a reduction in the number of shipments even though the total quantity of fuel transported through Kentucky increases. At this time the only virtual certainty is that some shipments are projected through Kentucky regardless of the existence of an MRS.

QUESTION 23: One of the contingencies identified in your testimony has an integral MRS contructed (presumably in Tennessee), but the first repository not constructed.

What contingency plans does the Department have in the event that it appears that neither the first nor the second repository will be constructed for political reasons?

ANSWER: In the event that neither the first nor the second repository is constructed the Department would continue to develop additional repository sites. If an MRS facility has been authorized and constructed, it can accept spent fuel on or ahead of schedule, packaging and storing it (up to the authorized storage-capacity limit) until a repository is authorized and becomes operational. If an MRS facility has not been authorized, spent fuel will continue to be stored at reactor sites in spent-fuel pools and possibly in dry storage.

Should no repository be constructed and an MRS facility not be authorized, utilities would continue to be responsible for storing the spent fuel at reactor sites. In this event, the Nation would return to the situation where it had no viable, assured method for the permanent disposal of spent fuel and high-level waste. A number of other methods of disposal have been proposed and evaluated in the past. In accordance with the NWPA, research and development continues on some techniques (e.g., subseabed disposal), and, should future progress demonstrate their practicality, they would be considered in program decisionmaking.

QUESTION 24: By the time it is known that both the first and second repositories are to be rejected for political reasons, we will be well into the 1990's. At that time, the U.S. nuclear power industry will be producing spent fuel in excess of at-reactor storage capacity at a high rate -- certainly higher than the capacity of the integral MRS in Tennessee to accept such spent fuel.

Has DOE considered the advisability in this event of construction of a long term-MRS underground, perhaps in a tunnel at a remote location in the Western U.S.?

If not, why not?

Provide the Committee with a discussion of this contingency option.

ANSWER: Consistent with the NWPA, the Department is firmly committed to long-term geologic disposal. The integrated MRS the Department plans to formally propose in January 1986 is intended to serve as a packaging facility for the first geologic repository. Such an MRS could also serve as a packaging facility for a long-term storage facility at another location in a hypothetical case where the first and second repositories could be rejected and the national commitment to geologic repositories could be revisited relative to other permanent isolation or long-term storage concepts.

Discharge of spent fuel in excess of at-reactor storage capacity is projected to be less than 1,000 MTU in 1996 and increase thereafter. It is unlikely, however, that this rate will ever approach the overall spent fuel generation rate because so many reactors coming on line now and currently planned will have "life-of-plant" storage capacities. The proposed MRS would be planned for acceptance rates of 3,000 MTU per year but be capable of acceptance rates up to 3,600 MTU per year by 1998. Thus, the Department believes that the proposed integrated MRS would have the capability to curb the need for utilities to keep adding new, at-reactor storage capabilities.

As indicated in the draft Mission Plan, several concepts for storage at an MRS type facility were considered. Two of the storage concepts studied involved underground tunnels. These were the tunnel drywell and tunnel rack vault concepts. The Department study concluded that the tunnel drywell concept has an extensive base of operational experience and could easily be secured against intrusion. Visual impacts would be limited to above ground facilities and mining spoils piles. The need for mountain or hillside locations would limit siting somewhat, but not be unduly restrictive. The concept has a higher life cycle cost than other concepts and requires the greatest amount of land. The suggestion of permanence lent by the tunnels could add to institutional acceptability problems in siting this facility for near-term storage because the concept could be seen as a near surface repository. In fact, many of the current repository design concepts, particularly those for a tuff repository in the side of a mountain [syncline] near the Nevada Test Site, resemble this concept. Depending on the time periods involved, the licensing of this tunnel drywell concept for long-term storage versus permanent disposal could be very similar.

The tunnel rack vault concept was the least mature of the concepts the Department studied. Such a facility could also be easily secured against intrusion. Visual impacts would be limited to above ground facilities and mining spoils piles. The life cycle cost is estimated at one-third higher than that of the selected alternate concept of field drywells for near-term storage and requires the least amount of safe, reliable operations and performance than the tunnel rack because of greater demonstration and operating experience, simplicity of the operating system, and more ready access to the canisters. Neither of the tunnel concepts were deemed readily amenable to expansion by adding modules as needed.

Our evaluation of storage concepts for our MRS proposal to Congress is discussed in greater detail in the study titled Selection of Concepts for Monitored Retrievable Storage of Spent Fuel and High Level Radioactive Waste (U.S. Department of Energy, Richland Operations Office, April 1984). The tunnel concepts would appear to be more suited for long-term storage alternatives (for example, as a parallel to geologic repositories should the need ever arise) than for near-term storage. The Department has not studied the advisability of a tunnel drywell or tunnel rack vault in a remote location of the western U.S. as a separately defined contingency. This is because of our commitment to and confidence in geologic repositories which makes us believe that substantial effort on long-term storage alternatives is unnecessary at this time.

QUESTION 25: **What would DOE do if Texas, Nevada and Washington all refuse to allow construction of a repository within their borders? What options are there?**

ANSWER: While the Governor or legislature of a State in which the site recommended by the President for the repository is located (or Indian Tribe on whose reservation the repository is proposed to be located) may disapprove the site designation, the Congress reserved for itself the authority to review such an objection. We do not believe it is likely that all three States considered for the first repository will disapprove the site designation and that Congress will in turn agree that sufficient reason exists to rule out all three choices. Should that occur, however, DOE could pull in additional sites from the first repository sites for characterization or go directly to consideration of second repository sites. The Mission Plan discusses in considerable detail the various scenarios for storage and disposal that are available to meet national requirements. Options for interim, short-term storage include a limited amount of storage at Federal sites, at an MRS facility if approved, or additional build-up of storage at reactor sites either in present water basins or using new dry storage techniques if licensed by the Nuclear Regulatory Commission.

Other, longer term storage alternatives can be considered later if such a need arises.

Department of Energy
Washington, DC 20585

January 10, 1986

Honorable Pete V. Domenici
Chairman, Subcommittee on Energy
  Research and Development
Committee on Energy and Natural Resources
United States Senate
Washington, D.C. 20510

Dear Mr. Chairman:

On September 12, 1985, Ben C. Rusche, Director of the Office of Civilian Radioactive Waste Management, appeared before the Energy and Natural Resources Subcommittee on Energy Research and Development to discuss the Department's Mission Plan for the Civilian Radioactive Waste Management Program.

Following that hearing, you submitted written questions for our response. Enclosed for your information are the answers to those questions, which also have been sent to the Committee staff.

If you have any questions, please have your staff call Ingrid Nelson or Cathy Hamilton on 252-4277. They will be happy to assist.

Sincerely,

Robert G. Rabben
Assistant General Counsel
for Legislation

Enclosure

POST-HEARING QUESTIONS AND ANSWERS

Relating to the

SEPTEMBER 12, 1985, HEARING

Before the

SUBCOMMITTEE ON ENERGY RESEARCH AND DEVELOPMENT
COMMITTEE ON ENERGY AND NATURAL RESOURCES
UNITED STATES SENATE

WITNESS: BEN C. RUSCHE
DIRECTOR, OFFICE OF CIVILIAN RADIOACTIVE WASTE MANAGEMENT

STATE OF MINNESOTA

Question 1: (a) Public confidence is lacking due to DOE's adherence to an unrealistic, overly-optimistic schedule.

(b) DOE allows its own milestones to slip, but it denies schedule alterations sought by the state.

Answer: (a) Public understanding and confidence in the program will be engendered through the Department's extensive public interaction program. For example, the Department has chosen, at the early stages of the program, to seek extensive public input on major program documents to ensure that the highest quality document is developed. In some cases, we have chosen, even when not required by the Act, to issue drafts of documents for public comment. The Mission Plan and the Environmental Assessments are examples of this policy. We believe that the solid foundation that is being established will enable the program to move forward with minimal delays that otherwise might occur and have considerably improved the probability of program success.

We have, in addition, noted repeatedly that the protection of public health, safety, and the environment is of paramount importance to the program. We will not compromise those factors in favor of schedule.

(b) The Department has carefully reviewed the milestones in the Nuclear Waste Policy Act and has developed a program schedule which is challenging and success-oriented while at the same time allowing sufficient time for professional analysis to support

STATE OF MINNESOTA

Question 1: (con't.)

Answer: sound decisions based on solid information and to develop high quality documents. Some milestones have slipped, such as the issuance of the Siting Guidelines and the Final Environmental Assessments, where a conscious decision was made to expand the process through which these documents were developed in order to ensure that all issues were considered. DOE will continue to carefully review the schedule and any proposed changes to it, whether the source of the proposed change is internal or external (e.g., States, Indian Tribes). If the proposed change is consistent with overall objectives, schedules will be adjusted as program needs dictate.

STATE OF MINNESOTA

Question 2:	DOE's siting guidelines are so vague that they will not guarantee selection of the safest site.
Answer:	The Department is confident that the siting guidelines will guarantee the selection of a site that not only meets, but exceeds the requirements of the Environmental Protection Agency (EPA) and the Nuclear Regulatory Commission (NRC). It should be noted that the Nuclear Regulatory Commission, after extensive review and considering public comment, unanimously concurred on the Siting Guidelines in June 1984.

STATE OF MINNESOTA

Question 3: DOE denies State funding of independent monitoring or testing to confirm DOE's findings. This jeopardizes the credibility of DOE's testing program.

The subject of state funding under NWPA grants for independent drilling and testing activities has been raised in litigation against the Department brought by the State of Nevada. The decision of the U.S. Court of Appeals for the Ninth Circuit in this case, State of Nevada v. Herrington, is currently under review by the Department.

STATE OF MINNESOTA

Question 4: DOE's objective is to meet minimum, rather than maximum, standards necessary for licensing a site.

Answer: The Department's objective is to meet all of the regulatory standards and criteria required for licensing a repository site. The Department cannot construct or operate a repository unless it obtains a license from the Nuclear Regulatory Commission (NRC). In order to obtain a license, the Department will have to prove to the Commission's satisfaction that the repository can meet the Environmental Protection Agency (EPA) standards (40 CFR Part 191) and the NRC criteria, (10 CFR Part 60) that have been established to implement the EPA standards. The objective of the criteria is to provide reasonable assurance that geologic repositories will isolate waste for at least 10,000 years without posing undue risk to public health and safety.

STATE OF MINNESOTA

Question 5: Politics have played a large hand in siting decisions.

Answer: Siting decisions have not been based on political considerations. The recommendations and determinations made in regard to the repository and MRS program have been developed on the basis of the best technical and scientific analyses in the United States. Scientific and technical contributions have come from governmental, industrial, National Laboratory, University, and special expert consultant sources, as well as from independent reviewers, including the National Academy of Sciences.

STATE OF MINNESOTA

Question 6: Minnesota disagrees with DOE's timing of the preliminary determination of site suitability; putting this decision at the end of site characterization would ensure that the best possible sites were recommended.

Answer: The Nuclear Waste Policy Act does not specify the time at which a preliminary determination of suitability must be made. The Department believes that, in the absence of precise specification, that timing decision is left to the discretion of the Secretary. In this regard, the decision of when to make the preliminary determination is a management or programmatic decision and is one related to the DOE management of its resources and the overall repository program.

The purpose of the preliminary determination is to add assurance that the three sites selected for characterization, an effort that will involve large sums of money, have a high probability of being found acceptable. The Act does not specify any finding to accompany the recommendation of sites to the President for characterization. A preliminary determination that sites recommended to the President are suitable for development as repositories on a preliminary basis would provide a basis for the recommendation that would otherwise be missing. Consequently, the Department plans to make the preliminary determination at the time it recommends to the President the sites for characterization.

STATE OF MINNESOTA

Question 7: In its search for a second repository, DOE should be exploring other geologic media in addition to granite.

Answer: Crystalline rock is not the only medium under consideration for the second repository. Crystalline rock sites may be considered along with the remaining characterized sites and sites not nominated from the first repository selection process (i.e., basalt, salt, and tuff). In addition to these rock types, the Department has also investigated argillaceous rock (i.e., shale) as another possible medium to be considered for a repository.

STATE OF MINNESOTA

Question 8: Minnesota cites specific difficulties in obtaining information from DOE: (a) delayed responses to information requests, (b) lack of response to Minnesota's FOIA request concerning a $30 million expenditure for Canadian research at sites north of Minnesota.

Answer: The Governor's Task Force on High-Level Radioactive Waste for the State of Minnesota submitted three Freedom of Information Act (FOIA) requests to the Department of Energy on April 22, 1985. Due to the extensive nature of the requests and the amount of effort involved in conducting a thorough and exhaustive search of files and records to locate, catalogue, and review the documents requested, a considerable amount of time and resources were required in order to comply with the request. A partial response was transmitted to the State on August 16, 1985. The Department fully responded to the FOIA requests on September 26, 1985. The Governor's Task Force was kept apprised of the status of the FOIA request throughout the process. The Department's response on September 26, 1985, pursuant to exemption 5 of the FOIA, 5 U.S.C. 552(b)(5), withheld some information contained in the documents.

Subsequently, on October 10, 1985, all of the information that was initially withheld was made available. This information included material relating to a joint US-Canadian agreement to fund research at the Atomic Energy of Canada, Limited Underground Research Laboratory near Manitoba.

STATE OF MINNESOTA

Question 9: Contrary to longstanding policy, DOE plans to release the final area recommendation report for second repository sites prior to designating potentially acceptable sites.

Answer: Potentially acceptable sites will be proposed in the Draft Area Recommendation Report to be issued this winter and potentially acceptable sites will be designated in the final Area Recommendation Report in mid-1986.

STATE OF MINNESOTA

Question 10: DOE is denying funds to Indian Tribes affected by the second repository, while at the same time approving funds to the affected states.

Answer: The Department, in the 1983-1984 timeframe, when the major activity was the collection of technical data, viewed that, in furthering the purposes of the Act, it was appropriate to provide funds to States, which possessed significant technical data resources, for their participation in the data collection stage of the program.

OCRWM is nearing the time of issuance of the draft Area Recommendation Report. This report will contain recommendations that may impact Tribal interests. Consequently, on November 6, 1985, Dr. Sally A. Mann, Manager of the Crystalline Repository Project Office, sent letters to 28 Indian Tribes which may, at some time in the future, be accorded "Affected" status notifying them of the availability of grant funds to review the draft Area Recommendation Report and related documents.

STATE OF MINNESOTA

Question 11: DOE refuses to properly address surface water bodies and transportation issues in second repository siting guidelines.

Answer: The Department has addressed surface water bodies in the regional phase to the extent appropriate through their status as a screening variable. Practical application of this variable in screening addresses lakes, reservoirs, oceans, bays, estuaries, and wide river channels of a minimum size of 320 acres (half of 1-mile square grid cell). The scale of this variable ranges from most adverse directly under the surface water body to more favorable at a distance of greater than 3 miles away from a surface water body.

The Department plans to evaluate transportation as part of the selection of candidate areas as well as during the area and site phases. In the regional phase, the Department determined that no adequate variable could be defined to realistically measure transportation considerations given the need for site specific information and the scope of transportation implications.

STATE OF MINNESOTA

Question 12: DOE's methodology for secondary sites screening includes subjective, undefined qualitative judgments rather than an objective, systematic analysis of technical data.

Answer: DOE's screening methodology for proposed crystalline sites is a systematic procedure specifically designed to ensure as objective a compilation and evaluation of environmental and geological data as can be performed given the availability of data. The region-to-area screening methodology, based on DOE's Siting Guidelines, was developed in consultation with the interested States, including Minnesota.

The Screening Methodology does combine both objective and qualitative factors that will be rigerously applied in the screening process. The methodology contains a number of discreet steps in the process. They are:

Step 1: Consideration of Disqualifying Factors

Step 2: Application of Regional Screening Variables

Step 3: Performance of Sensitivity Analysis

Step 4: - Confirmation of Accuracy of Results of Steps 1-3
- Qualitative/Descriptive Review of Literature
- Consideration of Other Siting Provisions

STATE OF MINNESOTA

Question 13:	DOE should begin the entire program over, so as to look nationwide at a variety of geologic media and find the safest possible locations. This would do "more than any other single action to restore credibility in the siting program."
Answer:	To begin another national screening process for the first repository is inconsistent with the requirements of the Nuclear Waste Policy Act, which specifies that the potentially acceptable sites for the first repository be identified shortly after the Act was passed. The requirement for the identification of potentially acceptable sites was derived from Congress' recognition that DOE had been conducting screening studies for several years.

STATE OF TENNESSEE

Question 1: Tennessee is concerned that the MRS will become a repository by default.

Answer: The Department considers the MRS to be an integral part of the entire Waste Management System. The primary purpose of the MRS would be to receive waste from reactor sites, package the waste in a form that can be directly placed into the repository, and ship the waste package to the repository. DOE acknowledges Tennessee's concern and will work with the State to ensure that the existence of an MRS, if authorized by Congress, does not diminish efforts to site, construct, and operate a geologic repository.

STATE OF TENNESSEE

Question 2: Tennessee is concerned that DOE will not include waste transportation corridors as part of the affected environment in its MRS Need and Feasiblity/Environmental Assessment report.

Answer: An analysis of the potential changes in total public exposure that would result if an integrated MRS were utilized in the waste system will be included in the environmental assessment. This analysis assumes specific corridors and population densities to perform the calculations.

STATE OF TENNESSEE

Question 3: The MRS EIS should be prepared before authorization and site designation so that it can be part of the decision-making process.

Answer: With regard to the timing of the development of an Environmental Impact Statement for the MRS facility, the Department is following the provisions of the NWPA.

STATE OF TENNESSEE

Question 4:	Tennessee wants to actively participate in the final preparation of the revisions to key DOE documents (related to MRS), but is concerned that it will not be provided in adequate time (i.e., at least 90 days) to review such documents.
Answer:	The Department has expedited its preparation of MRS related information in order that the State can begin its detailed review prior to the time that the proposal and accompanying documents (EA and Program Plan) are ready for formal interagency review by the Nuclear Regulatory Commission and the Environmental Protection Agency. It is our belief that this preliminary information, along with the recently transmitted MRS Conceptual Design Reports, will enhance the State's ability to offer a studied opinion to the Congress at the same time the MRS proposal is submitted.

STATE OF TENNESSEE

Question 5: DOE's site selection process for the MRS is questionable for the following reasons:

(a) over-emphasis on transportation reduction and federal ownership of land;

(b) reliance on questionable site-specific data; and,

(c) subjective weighing of selection criteria.

Answer: In reference to the site selection process, the Tennessee Attorney General has formally challenged the Department's MRS siting process by filing suit in federal court. Due to this litigation, it would be inappropriate for us to comment on the siting process at this time.

STATE OF TENNESSEE

Question 6: The Mission Plan's coverage of MRS issues is inadequate in the following areas:

(a) types and quantities of wastes to be received;

(b) length of operation of the facility; and,

(c) role of MRS, especially with respect to the second repository.

Answer: Additional information with respect to MRS issues will be provided in the MRS proposal to Congress and the supporting documentation that will accompany the proposal.

STATE OF TENNESSEE

Question 7: Tennessee wants to expand its interactions with DOE from that of information recipient to that of an equal partner in dialogue.

Answer: The Department is committed to providing the State of Tennessee with the opportunity for the fullest possible participation in the program. Even at this point in the development of the MRS Program, extensive interactions have already occurred with the State of Tennessee and local governments and that DOE has participated in numerous public meetings to discuss and receive input on the MRS at times and places designated by Tennessee officials. The Department has facilitated independent State review by providing a grant in the amount of $1.4 million and extensive information transfer. The scope and schedule of this program has been developed cooperatively with Tennessee. Through this interaction, the Department will work to resolve any questions or concerns by Tennessee regarding MRS authorization or deployment. DOE will continue to work with Tennessee to facilitate full participation.

Should Congress authorize construction of an MRS facility, Tennessee will have the opportunity to further define and expand its role in the program by means of the Consultation and Cooperation Agreement process.

Question 7: (con't.)

The Department will develop an outreach and participation plan for the MRS, as provided for by the Mission Plan. This plan will specify the activities that the Department will implement to ensure that Tennessee and other affected parties have the desired opportunities for input into program decisions. The plan will be based on information received from Tennessee and other affected parties.

NATIONAL CONGRESS OF AMERICAN INDIANS

Question 1:	DOE has denied grants to affected Indian Tribes, yet is funding affected states, involved in the second repository program.
Answer:	The Department, in the 1983-1984 timeframe, when the major activity was the collection of technical data, viewed that, in furthering the purposes of the Act, it was appropriate to provide funds to States, which possessed significant technical data resources, for their participation in the data collection stage of the program.

OCRWM is nearing the time of issuance of the draft Area Recommendation Report. This report will contain recommendations that may impact the interests of certain tribes. Consequently, on November 6, 1985, Dr. Sally A. Mann, Manager of the Crystalline Repository Project Office, sent letters to 28 Indian Tribes which may in the future be accorded "Affected" status notifying them of the availability of grant funds to review the draft Area Recommendation Report and related documents.

NATIONAL CONGRESS OF AMERICAN INDIANS

Question 2: Indian tribes are denied access to workshops and briefings on second repository screening methodology and consultation meetings.

Answer: Initially, Indian Tribes were not invited to meetings organized by DOE regarding the development of the screening methodology because they were not, at that time, active participants in the second repository screening process. DOE has recently taken steps to ensure that Indian Tribes will be fully and directly involved in the screening process including participation in workshops and meetings and the review of major decision documents. To this end, DOE is offering grants to 28 Indian Tribes in the Crystalline Repository Program to fund this participation.

NATIONAL CONGRESS OF AMERICAN INDIANS

Question 1:	Please provide a list of the states in the second repository region that have received grants, including the date of awards and amounts.
Answer:	The requested information is provided in the attached table.

OFFICE OF CIVILIAN RADIOACTIVE WASTE MANAGEMENT
OFFICE OF GEOLOGIC REPOSITORIES

SECOND REPOSITORY POST-NWPA GRANT AWARDS

State	Grant Number	Date Signed By DOE*	Date Signed By Grantee*	Award Amount
CT	DE-FG02-83NE44351	09/22/83	09/18/83	$ 35,200
		02/21/84	02/29/84	160,143
		11/21/84	11/27/84	132,824
		04/23/85	05/08/85	(11,041)
				$317,126
GA	DE-FG02-83NE44345	07/12/83	07/28/83	$ 25,350
		09/22/85	09/29/83	49,650
		12/02/83	12/16/83	20,400
		01/04/84	01/23/84	17,040
		12/14/84	12/21/84	140,06
				$247,93
ME	DE-FG02-81NE46640	01/31/83	02/15/83	$ 30,000
		04/05/83	04/12/83	156,638
		07/11/83	07/18/83	15,000
		09/29/83	10/12/83	26,951
		02/15/84	01/04/85	26,848
		12/21/84	01/04/85	157,403
		04/09/85	07/02/85	88,245
				$412,840
MD	DE-FG02-83NE44346	07/15/83	07/20/83	$ 15,000
		12/01/83	04/12/84	16,734
		02/28/85	03/06/85	73,461
		05/10/85	05/22/85	(2,060)
				$103,135
MA	DE-FG02-83NE44352	09/02/83	09/22/83	$ 46,689
		02/21/84	02/28/84	122,721
		12/27/84	01/02/85	240,001
				$409,411
MI	DE-FG02-83NE44348	07/18/83	08/01/83	$ 25,000
		09/22/83	09/30/83	54,120
		02/16/84	03/09/84	195,011
		12/31/84	NOT GIVEN	187,684
		04/02/85	08/12/85	(74,305)
		07/19/85	08/12/85	$ 60,000
				$447,510

OFFICE OF CIVILIAN RADIOACTIVE WASTE MANAGEMENT
OFFICE OF GEOLOGIC REPOSITORIES

SECOND REPOSITORY POST-NWPA GRANT AWARDS
(con't.)

State	Grant Number	Date Signed By DOE*	Date Signed By Grantee*	Award Amount
MN	DE-FG02-83NE44344	06/28/83	06/27/83	$ 25,000
		09/29/83	10/10/83	45,000
		12/02/83	12/21/83	102,500
		03/16/84	03/26/84	189,495
		02/28/85	03/15/85	189,816
		04/03/85	04/09/85	(1,224)
				$550,587
NH	DE-FG02-83NE44354	09/22/83	09/23/83	$ 32,390
		02/08/84	02/13/84	57,493
		12/13/84	12/17/84	188,933
		03/15/85	03/22/85	(14,278)
				$264,538
NJ	DE-FG02-83NE44349	09/14/83	10/10/83	$ 48,724
		12/01/83	NOT GIVEN	16,785
		03/09/84	04/10/84	96,207
		02/05/85	03/06/85	64,433
		04/09/85	05/24/85	(1,767)
				$224,382
NY	DE-FG02-84NE44507	11/04/83	11/21/83	$100,000
		12/01/83	12/12/83	100,000
		09/24/84	10/10/84	46,450
		03/26/85	04/02/85	196,678
				$443,128
NC	DE-FG02-83NE44350	09/14/83	09/20/83	$ 25,000
		11/09/83	11/17/83	65,000
		12/01/83	12/19/83	39,500
		03/07/84	03/16/84	47,055
		06/29/84	07/16/84	120,991
		03/25/85	04/03/85	184,150
		04/12/85	04/25/85	(17,683)
				$464,013
RI	DE-FG02-83NE44353	09/23/83	09/28/83	$ 99,525
		02/07/85	02/13/85	132,486
		04/23/85	06/07/85	(24,478)
		08/20/85	08/28/85	10,198
				$217,731

OFFICE OF CIVILIAN RADIOACTIVE WASTE MANAGEMENT
OFFICE OF GEOLOGIC REPOSITORIES

SECOND REPOSITORY POST-NWPA GRANT AWARDS
(con't.)

State	Grant Number	Date Signed By DOE*	Date Signed By Grantee*	Award Amount
SC	DE-FG02-83NE44343	06/15/83	06/28/83	$ 25,000
		09/22/83	09/26/83	50,867
		12/02/83	12/13/83	80,000
		02/24/84	02/28/84	95,819
		12/27/84	01/02/85	159,811
		08/28/85	09/18/85	(10,016)
				$401,481
VT	DE-FG02-81WM46642	06/29/83	07/13/83	$ 10,000
		01/16/84	01/26/84	42,462
		11/21/84	11/28/84	60,788
		04/09/85	04/22/85	5,930
				$119,180
VA	DE-FG02-84NE44508	07/31/84	08/02/84	$ 41,130
				$ 41,130
WI	DE-FG02-83NE44347	07/11/83	07/13/83	$ 25,000
		09,29,83	10/07/83	54,272
		12/02/83	12/07/83	63,300
		02/24/84	02/28/84	199,093
		03/18/85	03/26/85	247,854
		04/25/85	05/22/85	(14,237)
		08/22/85	09/05/85	12,174
				$587,456

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*Dates shown are taken from Notices of Financial Assistance Award.

NATIONAL CONGRESS OF AMERICAN INDIANS

Question 2: Please provide a listing of Indian tribes in the second repository region that have applied for grants. What is the status on each?

Answer: The Oneida Indian Tribe submitted a proposal dated August 10, 1983, to the Chicago Project Office. The request was to review DOE documents and attend program-related meetings. Funding for this request was denied on November 7, 1983 (copy of denial letter is attached).

The Department also received requests this calendar year for financial assistance from the Minnesota Indian Council and the Great Lakes Indian Tribal Council. These Councils are comprised of eight and ten Indian Tribes respectively. In that the Department has recently determined that it will fund 28 individual Indian Tribes in the second repository program, the above mentioned requests for direct financial assistance to these organizations are on hold to provide an opportunity for individual tribes to discuss options for employing these organizations' services.

NOV 7 1983

Mr. Michael Schaepe
Oneida Water Resource Management Program
P.O. Box 365
Oneida, Wisconsin 54155

Dear Mr. Schaepe:

SUBJECT: FINANCIAL ASSISTANCE

Reference: Letter, Schaepe to Kearns, dated August 10, 1983

As you are aware the Nuclear Waste Policy Act of 1982 does indicate that Indian tribes certified as "affected" by the Secretary of Interior are eligible to receive financial assistance from the Department. The Department has also determined that discretionary assistance can be provided to states or Indian tribes which have not been formally notified by the Department as having "potentially acceptable" sites but in which exploratory or screening work is taking place. These grants are called prenotification grants. Your request submitted by the referenced letter is considered a prenotification grant.

The criteria the Department utilizes in determining whether or not to issue a prenotification grant is that there must be significant mutual benefit to early State or Indian Tribal involvement in the repository development process. We have evaluated your request for a prenotification grant utilizing these criteria and have determined that there would not be sufficient mutual benefit to warrant funding your request at this time. The primary factors in this determination were the distance of your reservation from crystalline rock formations being considered in the Crystalline Rock Project and the assumption that the "unique or cloistered information" referred to in the referenced letter contains a level of detail beyond that required by DOE to successfully perform the regional-to-area screening. Of course, we are willing to reassess this determination during subsequent phases of the project, and if it is determined that mutual benefit exists financial assistance will be provided.

The Department is presently discussing the possibility of a grant with the National Congress of American Indians and the Council of Energy Resource Tribes to cooperatively serve the American Indian Tribal governments potentially affected by Civilian Radioactive Waste Management activities covered under the Act. This cooperative effort is intended to provide policy and technical analysis and advice to Tribal leadership and ensure Tribal awareness of and effective participation in project activities. You are encouraged to discuss this cooperative effort with either of the proposing organizations.

Sincerely,

Sally A. Mann, Manager
Crystalline Rock Project Office

bc: E. Burton, HQ
W. Bennett, HQ
R. Stein, HQ
W. Madia, OCRD
S. Silbergleid, OC

NATIONAL CONGRESS OF AMERICAN INDIANS

Question 3: What criteria was used to judge grant requests? Was the same criteria used for the states used for the tribes? If not, what is the justification?

Answer: a) What criteria was used?

The NWPA provides, through its purpose section and grant provision sections, the essential bases for the review of all grant requests from States and Indian Tribes. In addition, OCRWM's "Internal General Guidelines for Implementing Financial Assistance (Grants) for Repository Programs under Sections 116 and 118 of the Nuclear Waste Policy Act of 1982" (copies of June 83 and 84 versions are attached) provide a framework for review of grant applications.

The second repository program is still in Phase I. As described in the OCRWM guidelines, Phase I is the "prenotification" phase. The issuance of grants during this phase is considered to be discretionary in that the NWPA does not specifically address the provision of grants to States and Indian Tribes that have not yet been notified that they contain a potentially acceptable site. The OCRWM guidelines mentioned above permit issuance of such grants to both Indian Tribes and States. However, during the 1983 - 1984 timeframe, when the major activity was the collection of technical data, the Department viewed that, in furthering the purposes of the Act, it was appropriate to provide funds to States, which possessed significant technical data resources, for their participation

NATIONAL CONGRESS OF AMERICAN INDIANS

Question 3: (con't.)

in the data collection stage of the program. This view is reflected in the Department's decision not to award the 1983 grant request from the Oneida Tribe (see response to question #2). Recently, as the program is nearing the issuance of the draft Area Recommendation Report, which will contain recommendations that could impact Tribal interests, the Department has made grants available to Indian Tribes (see response to Question #4).

b) Was the same criteria used for states and tribes?

Yes. The criteria described in the second paragraph of part a) above were uniformly and consistently applied in issuing grants.

DOE F 1325.8
(7-79)

U.S. DEPARTMENT OF ENERGY

memorandum

DATE SEP 2 1 1984

REPLY TO ATTN OF RW-1

SUBJECT Revised Internal General Guidelines on Nuclear Waste Repository Program Grants

TO H. J. Rauch, CH
T. R. Clark, NV
M. J. Lawrence, RL

The past year's program of financial assistance to States and Indian tribes under the Nuclear Waste Policy Act proceeded under general guidelines issued on June 24, 1983. We have felt the need to revise these Guidelines in order to reflect the changing activities of program participants and lessons learned since the Guidelines were originally issued, as well as to address the site characterization phase of the program, upon which we are now entering. As with the June Guidelines, these revised Guidelines are intended to:

- aid OCRWM field organizations in carrying out repository program financial assistance to States and Indian tribes; and
- serve as the general policy basis for close headquarters/field consultation to resolve specific issues relating to repository program grants.

The Guidelines are not intended to provide answers to every possible question that may arise during negotiations which relate to program policy and execution; that can best be accomplished through close coordination between headquarters and the field.

The Guidelines are intended to assist field offices by establishing a single framework within which grants can be negotiated and awarded; by ensuring that all involved States and Indian tribes are treated equitably; and by ensuring that activities funded by the grants are consistent with the NWPA.

I want to thank you for the assistance of the project offices in helping to prepare these Guidelines. Every effort has been made to be responsive to comments received. Where differences existed, an attempt was made to establish guidance that was broad enough to allow individual offices flexibility in tailoring the Guidelines to their particular needs and requirements.

In keeping with the Department's objectives of openness and close consultation and cooperation, copies of these guidelines should be distributed widely to all relevant States/tribes and other groups who have an interest in the program.

Ben C Rusche

Ben. C. Rusche, Director
Office of Civilian Radioactive
Waste Management

Attachment

cc: S. Mann, CH
J. Neff, SRPO
L. Olson, RL
D. Vieth, NV

INTERNAL GENERAL GUIDELINES FOR IMPLEMENTING
FINANCIAL ASSISTANCE (GRANTS) FOR REPOSITORY PROGRAMS
UNDER SECTIONS 116 AND 118 OF
THE NUCLEAR WASTE POLICY ACT OF 1982

REVISED SEPTEMBER 7, 1984

1.0 PURPOSE

The purpose of the financial assistance program under the Nuclear Waste Policy Act of 1982 (the Act) is to ensure that eligible States and affected Indian Tribes have sufficient financial resources to participate in the repository development process as mandated by the Act. DOE is fully committed to the objective of timely and effective State and tribal participation and will use the financial assistance provisions of the Act to assist States and tribes in meeting this goal.

These are general guidelines. Because the needs and plans of the States and tribes involved in the different projects may vary substantially, individual DOE Project Offices will be required to deal with individual requests on a case-by-case basis. The purpose of the general guidance provided here is to assist DOE Project Offices by:

- establishing a single framework within which DOE field offices can respond to requests and negotiate and award grants;
- ensuring that all States and Indian tribes involved in the process are treated as equitably as possible; and
- ensuring that activities funded by the grants are consistent with the Act.

The purpose of these guidelines is to assist DOE in awarding grants to States and tribes in the several phases of the repository development process.

2.0 BACKGROUND

The financial assistance provisions of the Act relating to repository development are contained in Sections 116 and 118. Section 116 contains provisions applicable to the States and Section 118 contains similar provisions applicable to affected Indian tribes.

For purposes of this guidance, the repository development process has been divided into four phases: (I) prenotification; (II) notification/nomination; (III) characterization; and (IV) construction.

Phase I	States or tribes that have not been formally notified by DOE as having "potentially acceptable" sites but in which exploratory/ screening work is taking place. The Department has determined that grants may be awarded to these States or tribes prior to the time they have been notified as having potentially acceptable sites. These are referred to as "prenotification" or Phase I States or tribes and are the States/tribes that may at some future date contain a potentially acceptable site for the second repository. The 17 crystalline States fall within this category.
Phase II	States or affected tribes that have been notified under Section 116(a) of the Act that they have "potentially acceptable site" or sites for a repository. These are referred to as "notification" or Phase II States or tribes. States/tribes currently (June 1983) eligible for Phase II grants are Washington, Nevada, Utah, Texas, Louisiana, Mississippi, the Yakima Indian Nation, and the Umatilla Indian tribe. Sections 116(c)(1)(A) and 118(b)(1) of the Act provide for grants to States or tribes in this phase.
Phase III	States or affected tribes with recommended candidate sites that have been approved for site characterization by the President. These are referred to as "characterization" or Phase III States or tribes. Sections 116(c)(1)(b), 116(c)(3), 118(b)(4), and 118(b)(2)(A) of the Act specify the activities for which States and affected tribes may receive grants from DOE in this phase.
Phase IV	States or affected tribes with a site that has been authorized by the NRC for construction of a repository. These are referred to as "construction" or Phase IV States or tribes. This category will include only the sites ultimately selected for repositories. Sections 116(c)(2)(A), 116(c)(3), 118(b)(4), and 118(b)(3)(A) specify the activities for which States and affected tribes may receive grants from DOE in this phase.

This present set of guidelines focuses on financial assistance available during Phases I, II, and III. States and Indian tribes are eligible for new grants as sites proceed from Phase I through Phase IV. There should be no lapse in funding as States and Indian tribes progress from one phase to the next. However, DOE must discontinue funding for sites that are not selected for the next phase, i.e., are eliminated as candidate sites during any phase. Guidelines for terminating grants are provided later in this guidance.

3.0 ELIGIBILITY FOR GRANTS

States and affected Indian tribes that have been notified pursuant to Section 116(a) are eligible to receive financial assistance under the Act and fit into Phase II of the financial assistance program. States and affected Indian tribes are eligible for Phase III grants where a candidate site for a repository is approved under Section 112(c) for site characterization. DOE has also determined that where the Department is conducting exploratory/screening activities prior to notification, pursuant to Section 116(a), States and tribes may be eligible for grants for a limited range of activities related to State/tribe review of and comment on DOE documents and plans and other related activities.

4.0 RECIPIENTS OF GRANTS

4.1 Indian Tribes

The Act identifies an affected Indian tribe as the appropriate recipient of grants awarded under Section 118(b).

4.2 States

Groups within a State that could be potential grant recipients include:

1. The Governor's office or an office under the Governor - either an existing department, an advisory board or a new agency dealing exclusively with the nuclear waste issue;
2. An office or board of the State legislature; and
3. A local governmental entity such as a county government office.

The Department intends to negotiate and award grants to a single entity within the State (as determined by the State) while recognizing the legitimate needs of various parties within the State for financial support.

5.0 ACTIVITIES FUNDED

5.1 General

The Act provides basic guidance on allowable project activities for which grants may be awarded. These allowable uses will vary depending on the phase of the repository development process in which the States or affected tribes are involved. Activities funded will also vary with the level of participation desired by the State or tribe.

Grant applications should contain a detailed description of activities planned by the State or Indian tribe for the term of the grant and a budget that details the costs of conducting those activities.

DOE's Financial Assistance Rules, 10 CFR Part 600 (47 FR 44076, October 5, 1982), establish minimum requirements applicable to all grantees for reporting on progress and expenditures of grant funds.

5.2 Phase I (Prenotification) States or Tribes

- Review and Comment - Activities in this category should focus on reviewing and providing comment on DOE documents and plans related to repository development activities within the State or tribal area. Examples of such documents and plans include:
  - Mission Plan;
  - Siting Guidelines;
  - Regional Characterization Reports;
  - Region-to-Area Screening Methodology;
  - Area Recommendation Reports; and
  - Area Characterization Plan.
- Attendance at DOE-Sponsored Meetings and Workshops
- Preparation for C&C Agreements - Funds may be provided to permit the State or tribe to prepare to negotiate a C&C agreement. Activities may include information gathering, developing draft provisions, and initiation of training of staff in preparation for negotiations with DOE. (See DOE Internal General Guidelines for Implementing the Consultation and Cooperation Agreement Provisions of Section 117 of the Nuclear Waste Policy Act of 1982). Since C&C negotiations, pursuant to Section 117(c), are to be initiated only after potentially acceptable sites have been identified, funding for this type of activity should be limited to those States and tribes where DOE has made a preliminary identification that a potentially acceptable site may be located (e.g., in a draft Area Recommendation Report).
- Public Information Programs and Provisions of Information to Officials - Activities in this category should focus on:
  - Dissemination of program information to various State, local, and tribal officials and the public;
  - Coordination with interested groups within the State or tribe, including other State agencies with an interest, the legislature, local governments, and citizen groups;

- Preparation and participation in public briefings and meetings, including preparation of briefing materials; and
- Participation in regional interstate information meetings as appropriate.

Due to the preliminary nature of DOE's technical program at the Phase I stage, development of new publication materials should be kept to a minimum and coordinated between the grantee and DOE.

5.3 Phase II (Notification) States or Tribes

Activities that may be funded by Phase II grants are specified in Sections 116(c)(1)(A) and 118(b)(1) of the Act. The grants shall be made "for the purpose of participating in activities required by Sections 116 and 117 or authorized by written agreement under Section 117(c)." This provision covers a broad range of activities that may be eligible for funding. Special consideration should be given to activities designed to achieve the goals of maximizing State or tribe involvement in the overall repository development program and enabling States and tribes to participate effectively in the development of binding written C&C agreements. Examples of permissible activities include the following:

- Activities Leading to C&C Agreements - DOE is required to begin negotiations on the C&C agreements within 60 days after (1) a candidate site has been approved for characterization by the President, or (2) receipt of a written request by a State or Indian tribe notified under Section 116(a), whichever occurs first. A State or tribe may wish to gather information, develop draft provisions, orient and train staff for the negotiation of C&C agreements, and conduct C&C negotiations.
- Review and Comment - Activities in this category should focus on reviewing and providing comment to DOE on the plans, reports, proposed rules, etc., that are relevant to repository development activities within the State or tribal area. Examples of such items include:
    - Review of documents prepared by or for DOE, NRC and EPA and any other Federal agencies identified in the NWPA. These documents include but are not limited to:
        - Siting guidelines and modifications thereto;
        - Mission Plan;

  - Environmental assessments;

  - Site Characterization Plan preparation material;

  - Geologic/hydrologic evaluation reports;

  - Repository engineering reports; and

  - Socioeconomic, environmental, and transportation reports.

- Attendance at DOE-Sponsored and Other Program-Related Meetings and Workshops

- Public Information Function - Activities in this category should focus on grantee programs to disseminate information to groups within the State or tribe and respond to questions from individuals or groups within the State or tribal area. DOE may provide parallel services to the public and will coordinate public information activities with the grantee. Activities may include:

  - Development of publication materials;

  - Dissemination of program information;

  - Operation of public information offices;

  - Conducting of public information meetings;

  - Provision of information to officials;

  - Site visits;

  - Participation in and attendance at interstate information meetings as appropriate; and

  - Attendance at project-related meetings.

- Coordination Activities - These activities should enable grantees to coordinate with interested groups and citizens within the State or tribe. These groups might include other State agencies with an interest, the legislature, local governments, and citizens groups. The grantee should assume responsibility for soliciting views of such groups and keeping them informed of State/tribe activities.

- Monitoring, Analyses, and Studies - Activities in this category should focus on the analyses and studies necessary to provide appropriate monitoring and evaluation of DOE activities. Examples of such monitoring may include:
    - Independent review of DOE procedures, analyses, and programs;
    - Participation in technical review of DOE programs; and
    - Participation in development of DOE technical work plans.

5.4 Phase III (Site Characterization) States or Tribes

Activities that may be funded by Phase III grants are specified in Sections 116(c)(1)(B) and 118(b)(2) of the Act. Grants shall be made to States and Indian tribes where "a candidate site for a repository is approved under Section 112(c)." The provisions of the Act pertaining to site characterization cover a broad range of activities that may be eligible for funding, including developing the capability to monitor DOE activities, to understand the technical aspects of the program and its implications, and to evaluate potential impacts. However, duplication of data collection efforts and associated activities should be minimized to the maximum extent practicable and avoided if at all possible. Examples of permissible activities include the following:

- Activities Leading to C&C Agreements - As mentioned in Section 5.3 of the Guidelines, within 60 days of approval of a candidate site for characterization, DOE is required to initiate negotiations toward a C&C Agreement. A State or tribe may use grant funds to gather information, develop draft provisions, orient and train staff for the negotiation of a C&C Agreement and conduct C&C negotiations.
- Review and Comment - Activities in this category should focus on reviewing and providing comment on site characterization activities conducted by DOE, NRC, EPA, and other agencies for the purposes of determining any potential economic, social, public health and safety, and environmental impacts a repository may have on States, tribes and their residents. Examples of such items include:
    - Review of documents prepared by or for DOE, NRC and EPA such as DOE Site Characterization Plans;
    - Testing of DOE computer models; and
    - Review of Quality Assurance audits.

- Attendance at DOE-Sponsored Meetings and Workshops

- Monitoring, Analyses, and Studies - Phase III activities in this category should focus on the monitoring and evaluation of DOE site characterization activities. The grantee may also receive funding to run independent tests on DOE data, where the need for such independent testing can be justified. Examples of activities in this category include:

    - Monitoring of field activities by on-site resident observers;

    - Periodic inspections of DOE operations at site;

    - Monitoring and assessing the technical quality of DOE air or water quality monitoring installations;

    - Monitoring of cultural and environmental information gathering; and

    - Independent laboratory tests with DOE-provided samples, where the need for such testing can be justified.

- Impact Mitigation Request - Development of a request for impact assistance under Phase IV of the financial assistance program is required under Sections 116(c)(2) and 118(b)(3). Such impact assistance should be designed to mitigate the impact of the development of a repository, following the initiation of construction. In order to receive impact mitigation assistance in Phase IV, a State or tribe must prepare and submit "a report on any economic, social, public health and safety, and environmental impacts that are likely as a result of the development of a repository at a site..." This report must be submitted following completion of site characterization. Examples of activities under this category include:

    - Preparation of draft impact report including evaluation of baseline and project-related activities and effects;

    - Establishment of a framework for community participation (e.g., establishment of working groups that would include local citizens, officials, and interest group representatives); and

    - Training for negotiation of binding written agreements concerning impact mitigation at the appropriate time.

- Public Information Programs - Activities in this category should focus on grantee programs providing information to its residents regarding any activities of the State, Indian tribe, the Secretary, or the Commission with respect to a site being characterized, including activities such as:
    - Development of publication materials;
    - Dissemination of program information;
    - Operation of public information offices;
    - Conducting public information meetings;
    - Provision of information to officials;
    - Site visits;
    - Participation in and attendance at interstate information meetings as appropriate; and
    - Attendance at project-related meetings.

5.5 Grants-In-Lieu-Of-Taxes

Sections 116(c)(3) and 118(b)(4) of the Act provide for grants-in-lieu-of-taxes (GILOT) to States, units of general local government and affected Indian tribes during Phases III and IV as defined above. Separate guidelines will be developed to assist in implementation of the GILOT program.

6.0 REVIEW, NEGOTIATION AND FUNDING LEVELS

The DOE Project Offices have the responsibility to review each grant application to determine whether it conforms to the DOE Financial Assistance Rules, the requirements and goals of the Act, and these general guidelines.

The Project Offices working through their respective field operations offices have the authority to negotiate with the grant applicant any changes required to make the grant application conform to the requirements referenced above and the funding available within the project. The Project Office should discuss these requirements with potential grant applicants as early as possible (where possible, prior to receiving a formal application) to keep delays to a minimum in meeting State and tribal financial needs.

The funding levels for various grants should represent a balance between the varying needs of the different States and tribes and the need for equity among the States and tribes. Communication between field offices and Headquarters is essential in developing reasoned judgments on the optimum relationship between a grantee's proposed activities and the level of support requested. No grant shall be approved without Headquarters concurrence.

7.0 LIMITATIONS AND DISCONTINUATION OF FINANCIAL ASSISTANCE

Because of the changing status of States and tribes relative to the geologic repository program under the Act (e.g., a State or tribe can move successively from the Phase I category to Phase IV or can be disqualified from further consideration), each grant should specify the conditions under which continuation awards would be made or denied.

Sections 116(c)(4) and 118(c)(5) specify criteria for termination of the grants under certain circumstances. These criteria refer primarily to termination of site characterization activities by DOE or formal disapproval of a site by Congress or the NRC. A number of sites will be dropped from consideration for a repository long before the termination conditions provided in the Act are reached. To assure that grants are phased out on an orderly basis, each grant should contain terms that specify how funding will be terminated. The following approach is suggested for sites that may be eliminated during Phase I or II:

- Funding would terminate as set forth in applicable OMB Circulars and DOE's Financial Assistance Rules. If standard practices would not adequately protect the interests of the Government, a 90/180 day procedure will be used. Funding would terminate either 90 or 180 days after it has been decided to eliminate a site from further consideration and the State or tribe has been so notified. Generally, the 90 day period should be adequate to permit an orderly discontinuation of funded activities for States or tribes eliminated during Phase I and 180 days should be adequate for States or tribes eliminated during Phase II.

7.1 Unallowable Costs

The Act specifies that no "ordinarily incurred salary or travel expense" is eligible for funding under Sections 116(c)(1)(A) or 118(b)(1). This means that DOE may finance extraordinary travel and salary expenses incurred as a direct result of the provision of services to, or incurred as a direct result of participation in, waste disposal activities of the DOE under the Act. Salary and travel-related expenses of State employees working full- or part-time on waste disposal activities, consultants and other providers of contract services are potentially fundable. However, only those salary and travel expenses incurred by the State or tribe that would not have otherwise been incurred but for passage of the Act may be considered extraordinary expenses. Only extraordinary expenses, as described above, may be financed for Phase I States/tribes.

8.0 COORDINATION OF GRANT REQUESTS AND AWARDS

The timely exchange of information between the Project Offices and Headquarters and among the Project Offices is necessary to ensure that timely guidance on various specific and general issues is provided when needed, and that reasonable consistency and equity among States and tribes associated with different projects is maintained. To facilitate this exchange of information the Headquarters staff will serve the role of an "information clearinghouse" for grant applications and awards.

The Project Offices shall provide Headquarters staff information copies of all grant applications as they are received. This shall be followed up with informal status reports on negotiations as they proceed. During this process, Headquarters staff will provide guidance to the Project Office as requested and information on how similar situations or applications have been or are being handled in other Project Offices. The Project Office shall also provide to Headquarters copies of all grant awards, quarterly activity reports, and financial status reports. This information will serve as the basis for: (1) a periodic summary report on the level and substance of grant activities under the Act, and (2) providing additional specific guidance.

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INTERNAL GENERAL GUIDELINES FOR IMPLEMENTING EARLY FINANCIAL ASSISTANCE PROGRAMS UNDER SECTIONS 116 AND 118 OF THE NUCLEAR WASTE POLICY ACT OF 1982

1.0 PURPOSE

The purpose of the financial assistance program under the Nuclear Waste Policy Act of 1982 (the Act) is to ensure that eligible states and affected Indian tribes have sufficient financial resources to participate in the repository development process as mandated by the Act. DOE is fully committed to the objective of ensuring timely and effective state and tribal participation and will use the financial assistance provisions of the Act as one means of assuring that states and tribes have adequate resources to meet this goal.

These are general guidelines. Because the needs and plans of the states and tribes involved in the different projects may vary substantially, individual DOE project offices will be required to deal with individual requests on a case-by-case basis. The purpose of the general guidance provided here is to assist DOE project offices by:

- establishing a single framework within which DOE field offices can respond to requests and negotiate and award grants;
- ensuring that all states and Indian tribes involved in the process are treated as equitably as possible; and
- ensuring that activities funded by the grants are consistent with the Act.

The purpose of these guidelines is to assist DOE in awarding grants to states and tribes in the early phases of the repository development process, prior to negotiation of the formal DOE/state/tribe agreements. Grants made to states or tribes in later phases of the process, such as when sites have been approved for characterization by the President or have received a construction authorization from the Nuclear Regulatory Commission, are expected to flow logically from the consultation and cooperation (C&C) agreements negotiated with those states or tribes. Where they do not, additional guidance will be provided.

2.0 BACKGROUND

The financial assistance provisions of the Act relating to repository development are contained in Sections 116 and 118. Section 116 contains provisions applicable to the states and Section 118 contains similar provisions applicable to affected Indian tribes.

For purposes of this guidance, which repository development process has been divided into four phases: (I) prenotification; (II) notification/nomination; (III) characterization; and (IV) construction.

Phase I. States or tribes which have not been formally notified by DOE as having "potentially acceptable" sites but in which exploratory/screening work is taking place. The Department has determined that grants may be awarded to these states or tribes prior to the time they have been notified as having potentially acceptable sites. These are referred to as "prenotification" or Phase I states or tribes and are the states/tribes which may at some future date be affected by sites under consideration for the second repository. The 17 "granite" states fall within this category.

Phase II. States or affected tribes which have been notified under Section 116(a) of the Act that they have "potentially acceptable site" or sites for a repository. These are referred to as Phase II states or tribes. States/tribes currently (June 1983) eligible for Phase II grants are Washington, Nevada, Utah, Texas, Louisiana, Mississippi, and the Yakima Indian Nation. Sections 116(c)(1)(A) and 118(b)(1) of the Act explicitly provide for grants to states or tribes in this phase.

Phase III. States or affected tribes with recommended candidate sites which have been approved for site characterization by the President. These are referred to as "characterization" or Phase III states or tribes. There will be three such sites in the selection process for the first repository and another three sites in the subsequent selection process for the second repository. Sections 116(c)(1)(B), 116(c)(3), 118(b)(4), and 118(b)(2)(A) of the Act specify the activities for which states and affected tribes may receive grants from DOE in this phase.

Phase IV. States or affected tribes with a site which has been authorized by the NRC for construction of a repository. These are referred to as "construction" or Phase IV states or tribes. This category will include only the sites ultimately selected for repositories. Sections 116(c)(2)(A), 116(c)(3), 118(b)(4), and 118(b)(3)(A) specify the activities for which states and affected tribes may receive grants from DOE in this phase.

This guidance focuses on financial assistance available during Phases I and II. States and Indian tribes are eligible for new grants as sites proceed from Phase I to Phase IV. New grant applications and awards are required for each of the phases identified above. There should be no lapse in funding as states and Indian tribes progress from one phase to the next. However, DOE may discontinue funding for sites that are not selected for the next phase, i.e., are eliminated during any phase. Guidelines for terminating grants are described in detail later in this guidance.

3.0 ELIGIBILITY FOR GRANTS

States/tribes which have been notified pursuant to Section 116(a) and Indian tribes certified as "affected" by the Secretary of the Interior are eligible to receive financial assistance under the Act.. DOE has also determined that where the Department is conducting exploratory/screening activities prior to notification, states and tribes may be eligible for grants for a limited range of activities related to state/tribe review of and comment on DOE documents and plans.

-4.0 RECIPIENTS OF GRANTS

4.1 Indian Tribes

The Act identifies an Indian tribe as the appropriate recipient of grants issued under Section 118(b). It is expected that the governing body or tribal council will authorize and name individuals to act on behalf of the tribe.

4.2 States

Groups within a state which could be potential grant recipients include:

1. The Governor's office or an office under the Governor -- either an existing department, an advisory board or a new agency dealing exclusively with the nuclear waste issue;

2. An office or board of the State legislature; and

3. A local governmental entity such as a county government office.

While the Department prefers to negotiate and award grants to a single entity within the state (as determined by the state) during Phases I and II, the needs of other legitimate parties within the state for financial support should be recognized.

5.0 ACTIVITIES FUNDED

5.1 General

The Act provides some guidance on allowable uses of the grants, which will vary depending on the phase of the repository development process in which the states or affected tribes are involved. Activities funded will also vary with the level of participation desired by the state or tribe.

Grant applications should contain a detailed description of activities planned by the state or Indian tribe for the term of the grant, as well as a budget that details the costs of conducting those activities. If a potential grantee wishes to procure contractor assistance, it must follow the procedures in DOE's Financial Assistance Rules 10 CFR Part 600 (47 FR 44076, October 5, 1982).

DOE's Financial Assistance Rules establish minimum requirements applicable to all grantees for reporting on the progress and expenditures of the program and maintaining a financial management system.

5.2 Phase I (Prenotification) States or Tribes

DOE may award grants to these states or tribes primarily to fund state or tribal review of and comment on DOE documents and plans related to repository development activities within the state or tribal area. In addition, funds may be provided to permit the state or tribe to prepare to negotiate a C&C agreement. (See Internal General Guidelines For Implementing the Consultation and Cooperation Agreement Provisions of Section 117 of the Nuclear Waste Policy Act of 1982.)

5.3 Phase II States or Tribes

The activities which may be funded by Phase II grants are specified in Sections 116(c)(1)(A) and 118(b)(1) of the Act. The grants shall be made "for the purpose of participating in activities required by Sections 116 and 117 or authorized by written agreement under Section 117(c)." This provision covers a broad range of activities which may be eligible for funding. Special consideration should be given to activities designed to achieve the goals of maximizing state or tribe involvement in the overall repository development program and enabling states and tribes to participate effectively in the development of binding written C&C agreements. Examples of permissible funding include the following activities:

Activities Leading to C&C Agreements -- DOE is required to begin negotiations on the C&C agreements within 60 days after (1) a candidate site has been approved for characterization by the President, or (2) receipt of a written request by a state or Indian tribe notified under Section 116(a) or an Indian tribe certified as "affected" by the Secretary of the Interior. A state or tribe may wish to gather information, develop draft provisions, and orient and train staff for the negotiation of C&C agreements.

Review and Comment -- The grantee should be responsible for reviewing and providing comment to DOE on the plans, reports, proposed rules, etc., which are relevant to repository development activities within the state or tribal area. Examples of such items include:

- Review of guidelines and modifications thereto;
- Environmental assessments;

- Site Characterization Plan preparation material;
- Geologic/hydrologic education reports;
- Repository engineering reports;
- Socioeconomic evaluation reports;

Public Information Function -- The grantee should disseminate information to groups within the state or tribe and respond to questions from individuals or groups within the state or tribal area. DOE may provide parallel services to the public and will coordinate public information activities with the grantee.

Coordination Activities -- The grantee should be responsible for coordinating with interested groups within the state or tribe. This might include other state agencies with an interest, the legislature, local governments and citizens groups. The grantee should assume responsibility for soliciting views of such groups and keeping them informed of state/tribe activities.

Analyses and Studies -- Phase II activities in this category should focus on the analyses and studies necessary to provide appropriate monitoring and evaluation of DOE activities. Examples of such monitoring include:

- On-site monitoring of field activities.
- Independent peer review of DOE procedures, analyses, and programs.
- Participation in technical review of DOE programs.
- Participation in development of DOE technical work plans.
- Maintaining a technical data base for state/tribe use.
- Participating in development and evaluation of socioeconomic/environmental plans and programs.
- Planning and preparatory work necessary to establishing an information base for impact investigation studies.

6.0 REVIEW, NEGOTIATION AND FUNDING LEVELS

The DOE project offices have the responsibility to review each grant application to determine whether it conforms to the DOE Financial Assistance Rules, the requirements and goals of the Act, and these general guidelines.

The project offices working through their respective field operations offices have the authority to negotiate with the grant applicant any changes required to make the grant application conform to the requirements referenced above and the funding available within the project. The project office should discuss these requirements with potential grant applicants as early as possible (where possible, prior to receiving a formal application) to keep delays to a minimum in meeting state and tribe financial needs.

The funding levels for various grants should represent a balance between the varying needs of the different states and tribes and the need for equity among the states and tribes. Communication between field offices and headquarters is essential in developing judgments on the relationship between a grantee's proposed activities and the level of support requested.

7.0 LIMITATIONS AND DISCONTINUATION OF FINANCIAL ASSISTANCE

Because of the changing status of states and tribes relative to the geologic repository program under the Act (e.g., a state or tribe can move successively from the Phase I category to Phase IV or can be disqualified from further consideration), each grant should specify the conditions under which funding would be discontinued or amended.

Sections 116(c)(4) and 118(c)(5) specify criteria for termination of the grants under certain circumstances. However, these criteria refer primarily to termination of site characterization activities or formal disapproval of a site by the state or NRC. A number of sites will be dropped from consideration for a repository long before the termination conditions provided in the Act are reached. To assure that grants are phased out on an orderly basis, and recognizing that a state or tribe may have committed resources in anticipation of continuing through the repository development process, each grant should contain terms which specify how funding will be terminated. The following approach is suggested for sites that may be eliminated during Phase I or II:

> Funding may be based on quarterly contingency payments. Funding would terminate either 90 or 180 days after it has been decided to eliminate a site from further

consideration. Generally, the 90 day period should be adequate to permit an orderly discontinuation of funded activities for states or tribes eliminated during Phase I and 180 days should be adequate for states or tribes eliminated during Phase II.

Beyond the guidance, requirements, and limitations in DOE's general Financial Assistance Rules, the Act specifies that no "ordinarily incurred salary or travel expense" is eligible for funding under sections 116(c)(1)(A) or 118(b)(1). This means that DOE may finance extra-ordinary travel and salary expenses incurred as a direct result of the provision of services to, or participation in, waste disposal activities of the DOE under the Act. Salary and travel-related expenses of state employees working full- or part-time on waste disposal activities, consultants and other providers of contract services are potentially fundable. However, only those salary and travel expenses incurred by the state or tribe which would not have otherwise been incurred but for passage of the Act may be considered extra-ordinary expenses. Merely because activities proposed by a state/tribe predate either the grant request or the passage of the NWPA does not in itself render such activities ineligible. Such pre-existing activities may be eligible if they are germane to the purposes of the Act and they (1) were established in anticipation of passage of the NWPA to prepare for participation in the repository selection program, or (2) will provide the state/tribe or DOE with new or substantially modified deliverables (e.g., reports, comments, reviews), or (3) represent a distinct increase in the level of the pre-existing activities, or (4) must be performed in order to carry out activities which are clearly eligible. Where doubts exist, the state or tribe should be asked to demonstrate the extra-ordinary nature of the expenses in question.

8.0 COORDINATION OF GRANT REQUESTS AND AWARDS

The timely exchange of information between the project office and headquarters and among the project offices is necessary to ensure that timely policy guidance on various specific and general issues is available when needed, and that reasonable consistency and equity among states and tribes associated with different projects is maintained. To facilitate this exchange of information the headquarters staff will serve the role of an "information clearinghouse" for grant applications and awards.

The project offices should provide headquarters staff information copies of all grant requests as they are received. This should be followed up with informal status reports on negotiations as they proceed. During this process headquarters staff will provide guidance to the project office as requested and information on how similar situations or requests have been or are being handled in other project offices. The project office should also provide to headquarters copies of all grant awards. This information will serve as the basis for: (1) a periodic summary report on the level and substance of grant activities under the Act, and (2) providing additional specific guidance.

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Question 4: When were states notified of monies available? Were tribes notified? If no, why not?

Answer: The Nuclear Waste Policy Act (NWPA) directs DOE to provide financial assistance to States and Indian Tribes that have been notified that they contain a "potentially acceptable site." Then Secretary Hodel notified the six states in the first repository program of their affected status in letters dated February 2, 1983. The Yakima Indian Nation was notified in a letter dated May 20, 1983; the Confederated Tribes and Bands of the Umatilla Indian Reservation on September 23, 1983; and the Nez Perce Indian Tribe on November 23, 1984. The notification letter requested a meeting between each of the States and Tribes to discuss DOE's plans for implementing the NWPA. Implementation of the consultation and cooperation sections of the Act were specifically referred to in the letters. These sections include financial assistance requirements.

On February 10, 1983, former Secretary Hodel notified the 17 second repository States of the preliminary siting activities the Department had initiated which involved crystalline rock bodies in these States, and of the various provisions of the NWPA that involved State participation, including the opportunity for grant funding in the event that a State is identified as having one or more potentially acceptable sites.

Question 4: (con't.)

In response to subsequent State inquiries, the Department, in letters dated March 17, 1983 and August 5, 1983, notified the States of the availability of "prenotification" financial assistance for review of DOE technical reports. Similarly, as noted in the response to Question #2, the Department responded to a grant request from the Oneida Water Resource Management Program. Other than these responses to inquiries and correspondence related to annual renewal of State grants, there has been no general notification of the availability of "prenotification" grant funds to either second repository States or Indian Tribes.

On November 6, 1985, Sally A. Mann, Manager of the Crystalline Project Office, sent identical letters to 28 Indian Tribes that may later be accorded "affected" status. A copy of this letter is attached. These letters notified the Indian Tribes that funding would be available to review the Area Recommendation Report and related documents.

In order for Indian Tribes to be accorded "affected" status, they must have crystalline rock bodies either underlying their reservation or have Federally defined possessory or usage rights off-reservation that may be impacted by crystalline project rock

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Question 4: (con't.)

bodies. It should be noted that the Oneida Indian Tribe does not meet this test and, therefore, was not notified as to the availability of grants funds.

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NOV 6 1985

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R. R. 1
Bowler, Wisconsin 54415

Dear Mr. Miller:

SUBJECT: FINANCIAL ASSISTANCE TO INDIAN TRIBES IN CONNECTION WITH THE CRYSTALLINE REPOSITORY PROJECT

The Department of Energy, Office of Civilian Radioactive Waste Management, is currently examining 235 crystalline rock bodies in 17 northern and eastern states for the siting of a repository for the disposal of high-level radioactive waste material and spent nuclear fuel as required by the Nuclear Waste Policy Act of 1982 (NWPA).

Later this year, the Department will release, for 90 days of public comment, the draft Area Recommendation Report (ARR). This report will narrow the focus of the program from the 235 rock bodies to approximately 15 to 20 areas in about 4 to 6 states. It is possible that your Tribe may be impacted by decisions reached in the final ARR and therefore, it is appropriate for your tribe to comment on the draft report before it is finalized.

The Department has decided to make NWPA grant funds available to each interested Indian Tribe that may be eligible either because (1) its reservation is underlain by crystalline rock under consideration by the Department, or (2) it has federally-defined possessory or usage rights off-reservation within the 17 states under consideration by the Department. The grants will be awarded for a three-month project and budget period in an amount not to exceed $30,000 for review of the draft ARR, related documents and reasonable related travel. The award will not constitute a commitment for any future funding from the Department. Once potentially acceptable sites have been identified, grant funding will be available to affected Indian Tribes under Section 118 of the Act.

This letter is being sent to the Indian Tribes on the attached list. This list, developed with the assistance of the U.S. Department of the Interior, identifies Tribes either underlain by crystalline rock or possessing federal off-reservation treaty rights within the 17 states. It must be noted that the Department's decision to make NWPA grant funds available to the above listed Tribes at the present time does not consitute a determination of "affected" status for purposes of the NWPA and should not be interpreted as prejudging that determination. The determination of "affected" status for purposes of the NWPA can be made only after potentially acceptable sites in crystalline rock have been identified.

If your Tribe plans to submit a request for financial assistance, it will be necessary to submit completed forms, as outlined in the enclosed instructions, by November 27, 1985. It is important for your Tribe to submit the request by November 27, 1985 so that a grant document can be executed prior to the release of the draft Area Recommendation Report.

While it appears likely that we will be able to provide financial assistance to your Tribe, this letter does not commit DOE to reimburse any costs your Tribe may incur for the above work, nor does it authorize your Tribe to perform any work, prior to the execution of a grant document by the DOE Contracting Officer.

I have also arranged for a workshop to be held November 25, 1985 from 10:00 a.m. until 3:00 p.m. at the Duluth Holiday Inn, 207 West Superior Street, Duluth, Minnesota, 55802. The purpose of the workshop is to provide an overview of the waste program, a status of the Crystalline Repository Project and an opportunity to answer any questions you may have about the grants. The Department will reimburse up to two tribal representatives to attend the workshop. For reimbursement, you must first request reimbursement in writing prior to the workshop.

If you have any questions concerning the submission of your funding request covering this period, or our procedure for providing financial assistance to your tribe, please contact Mr. James Bieschke at (312) 972-2120. Should you have any questions regarding the program itself, please contact Mr. Richard Schassburger at (312) 972-2570.

Sincerely,

fo Sally A. Mann, Manager
Crystalline Repository Project Office

Enclosure:
As Stated

cc: James Kleinhans, w/o encls.

NATIONAL CONGRESS OF AMERICAN INDIANS

Question 5: Does the Department believe that grants under the NWPA are to be enacted as a convenience to the Department?

Answer: No.

NATIONAL CONGRESS OF AMERICAN INDIANS

Question 6: Does the Department believe that a legal basis exists or can be found for making a distinction between state and tribal funding under NWPA?

Answer: The Department believes the financial assistance provisions of the NWPA are designed to ensure equitable treatment of States and Indian Tribes.

NATIONAL CONGRESS OF AMERICAN INDIANS

Question 7: Does the Department believe that through funding to the states and not the tribes, the tribes' interests are being taken care of by the states?

Answer: The Department does not fund States with the expectation that they will provide for the interests of Indian Tribes.

NATIONAL CONGRESS OF AMERICAN INDIANS

Question 8: What meetings have taken place between the states and the Department in the second repository program: Were tribes invited? If not, why not?

Answer: Since early 1983 DOE has been involved in 78 public interaction meetings regarding the second repository program. Of this total, 65 meetings have involved a State or States with 57 of them having actually been held in the crystalline States. (A complete list of Crystalline Repository Project Public Interaction Meetings is attached for your information.)

It should be noted that the meetings involving the States have varied widely. Examples of these are as follows:

- public meetings requested by the respective States, Congressmen, citizens groups, local governments, technical/scientific organizations, and academic groups;

- periodic meetings with all 17 crystalline States to discuss issues of concern, provide schedule updates, and discuss recent project developments; and

- special briefings on topics such as the Siting Guidelines and Mission Plan.

Question 8: (con't.)

The majority of meetings in the States are requested by the types of organizations listed earlier. DOE attends such meetings at the request of the respective States and various organizations.

Tribal Involvement

A number of public meetings have had Tribal attendance. Examples are the February 17, 1983, public meeting in Wausau, Wisconsin, and the February 16, 1984, regional phase negotiations session between DOE and the State of Wisconsin in Wausau. Further, DOE has briefed the Tribes at national meetings--such as the May 16, 1984, briefing for the National Congress of American Indians in Denver, Colorado, and the April 24, 1985, presentation to the National Congress of American Indians' National Indian Waste Review Committee meeting in Minneapolis, Minnesota. DOE has also held a major briefing for both the second repository States and Tribes. This meeting was held on October 4, 1984, in Atlanta, Georgia.

In addition, DOE has had a grant with the National Congress of American Indians since February 1984. One of the major purposes of this grant is to have the NCAI serve to keep interested

NATIONAL CONGRESS OF AMERICAN INDIANS

Question 8: (con't.)

of this grant is to have the NCAI serve to keep interested Indian Tribes informed of OCRWM program activities.

DOE held a one day workshop for the 28 Tribes on November 25, 1985, in Duluth, Minnesota. The status of the project, review of the Draft Area Recommendation Report (ARR), and grants requirements was discussed at this meeting. This session was designed to assist the Tribes in preparing for the review of this major program report.

For those meetings organized by DOE (e.g., Screening Methodology workshops) that involved States, but not Indian Tribes, Tribes were not invited at that time because they were not active participants in the screening process. DOE has recently taken steps to more directly involve individual interested Tribes in the screening process, including full participation in future workshops and meetings with the 17 crystalline States. For example, DOE will be offering grants to 28 Indian Tribes in the Crystalline Repository Program area to enable these Tribes to review and comment on the next major decision document in the second repository program. This document is the Draft Area Recommendation Report and will identify about 15 large areas in about 6 States for further examination and field studies.

Crystalline Repository Project Public Interaction Meetings

Date of Meeting	Meeting Participants	Location	Attendance
February 10, 1983	DOE briefing for representatives of the 17 crystalline states.	Chicago, IL	55
February 17, 1983	DOE briefing for Wisconsin Radioactive Waste Review Board and public.	Wausau, Wisconsin	700
March 20, 1983	Battelle OCRD meeting with the Wisconsin Radioactive Waste Review Board's Policy Advisory Council regarding crystalline project public information activities.	Rhinelander, Wisc.	24 (9 members of Policy Council, 15 members of public, including Menominee Tribe representative)
March 26, 1983	Battelle OCRD briefing for local officials and the public.	Knox/Brandwood, Wisc.	115
March 29, 1983	DOE briefing for Georgia state officials.	Atlanta, GA	9
April 14, 1983	DOE briefing for the National Conference of State Legislatures	Washington, D.C.	55
April 19, 1983	DOE briefing for the Vermont State Nuclear Advisory Panel's High Level Nuclear Waste-Review Committee	Montpelier, Vt.	15
April 22, 1983	DOE briefing for the Governor and state officials	Augusta, Me.	Two sessions - one with Governor (5); one executive & legislative officials (12)
April 28-29, 1983	DOE briefing for Congressional delegations and staff from the 17 crystalline states	Washington, D.C.	12

Crystalline Repository Project Public Interaction Meetings

Date of Meeting	Meeting Participants	Location	Attendance
May 11, 1983	DOE holds plenary state consultation meeting for crystalline states to discuss development of siting guidelines	Dallas, Tx.	50
May 19, 1983	DOE negotiations session with the State of Wisconsin on a possible Sec. 117(c) agreement (which would only be executed by DOE if potentially acceptable sites were identified in Wisconsin)	Madison, Wisconsin	65
June 1983	DOE briefings on public comments and DOE responses on proposed siting guidelines.	Held at various locations, including in the individual states themselves.	(Approximate total for briefings: 75)
June 29-30, 1983	DOE Screening Methodology Workshop for the crystalline states	Columbus, Ohio	15 states (approx. 50 people)
July 6, 1983	DOE-HQ participants in local public meeting	Davidson County, N.C.	(Ralph Stein)
July 7, 1983	DOE briefing for the Vermont State Nuclear Advisory Panel	Montpelier, Vt.	20
July 18, 1983	DOE briefing for the Wisconsin Radioactive Waste Review Board and the public	Rhinelander, Wisc.	50
July 18, 1983	DOE briefing for Southern Legislative Conference	Savannah, Ga.	60
August 10, 1983	DOE briefing for the New Jersey State Department of Environmental Protection.	Trenton, N.J.	30
August 17-19, 1983	DOE holds plenary state consultation meeting for crystalline states to discuss development of siting guidelines	Dallas, Tx.	50

Crystalline Repository Project Public Interaction Meetings

Date of Meeting	Meeting Participants	Location	Attendance
August 22-23, 1983	DOE briefing for public and Michigan State High-Level Waste Task Force	Marquette, Mich.	350
September 10, 1983	DOE presentation for the quarterly meeting of the Wisconsin Audubon Council	Whitewater, Wisc.	60
September 16, 1983	Battelle OCRD briefing for the Wisconsin Chapter of the American Society of Civil Engineers	Madison, Wisc.	30
September 26, 1983	DOE-HQ briefing for the Virginia Solid Waste Study Commission	Richmond, Va.	(Ginger King)
November 16-18, 1983	DOE screening methodology workshop for 17 crystalline states	Chicago, Il.	16 states 60 people
December 2, 1983	DOE briefing for the Women State Legislators CAWP Forum	San Diego, Calif.	75
December 16-17, 1983	DOE briefing for the National Conference of State Legislatures	Washington, D.C.	30
February 14-15, 1984	DOE conducts tour of Climax Repository Test Site for crystalline states' officials	Nevada Test Site, Nevada	13 states;
February 16, 1984	DOE participants in a meeting with the State of Wisconsin on possible regional phase negotiations.	Wausau, Wisconsin	15 people
June 7-8, 1984	DOE briefing for crystalline states on Project Schedule, Mission Plan, Screening Methodology and Draft Regioal Characterization Reports	Washington, D.C.	20
August 9, 1984	DOE briefing for crystalline states - at National Governors' Association meeting	Washington, D.C.	30

Crystalline Repository Project Public Interaction Meetings

Date of Meeting	Meeting Participants	Location	Attendance
September 6, 1984	DOE briefing for crystalline states' Congressional delegations and staff on the project screening process and status of Revised Draft Regional Characterization Reports	Washington, D.C.	35
September 10, 1984	DOE briefing for staff of National Conference of State Legislatures	Chicago, Ill.	1
October 3, 1984	DOE participates in crystalline states meeting. Project screening process and status of Revised Draft Regional Characterization Reports are discussed.	Atlanta, Ga.	100
October 4, 1984	DOE-HQ holds meeting of both 1st and 2nd repository states and 1st repository program affected Indian tribes	Atlanta, Ga.	200
December 11, 1984	DOE briefing for crystalline states' Congressional delegations and staff. Project status and Revised Draft Regional Characterization Reports are discussed.	Washington, D.C.	35
February 18, 1984	Battelle OCRD presentation to the Michigan Society of Professional Engineers, Houghton, Michigan Chapter.	Houghton, Mich.	30
February 21-24, 1984	DOE conducts third screening methodology workshop for 17 crystalline states.	Atlanta, Ga.	(17 states; 60 people)
March 12, 1984	DOE briefing for public -- at the request of Congressman C. Robin Britt	Churchland, N.C. and Oak Ridge, N.C.	(70 people at each meeting)

Crystalline Repository Project Public Interaction Meetings

Date of Meeting	Meeting Participants	Location	Attendance
March 22, 1984	Battelle OCRD presentation at the University of Wisconsin-River Falls Campus	River Falls, Wisc.	40
March 24, 1984	DOE briefing for the Minnesota Citizens Advisory Committee	St. Paul, Minn.	150
May 3, 1984	DOE briefing for the Blue Ridge Environmental Defense League and public --at the request of Congressman Stephen L. Neal)	Jefferson, N.C.	275
May 3, 1984	Battelle OCRD presentation for Georgia Institute of Technology	Atlanta, Ga.	25
May 16, 1984	DOE briefing for the National Congress of American Indians	Denver, Col.	30
January 16, 1985	DOE briefing for the public and the Michigan Governor's Task Force on Nuclear Waste Disposal	Marquette, Mich.	15
February 6, 1985	DOE meeting with crystalline states which were in attendance at a Radioactive Waste Transportation Workshop	Alburquerque, N. Mexico	25
February 20, 1985	DOE meeting with representatives of Stokes County citizens groups, western North Carolina citizens groups and local officials	Danbury, N.C.	15
February 21, 1985	DOE briefing for the public and Stokes County Nuclear Waste Advisory Committee -- at the request of Congressman Stephen L. Neal	Danbury, N.C.	400
March 26, 1985	Meeting with crystalline states in attendance at the Waste Management '85 Conference in Tucson, Arizona	Tucson, Arizona	35

Crystalline Repository Project Public Interaction Meetings

Date of Meeting	Meeting Participants	Location	Attendance
April 24, 1985	Presentation to the National Congress of American Indians' National Indian Waste Review Committee	Minneapolis, Minn.	40
April 24, 1985	DOE participants in public meeting for northern Vermont citizens	West Charleston	325
April 25, 1985	DOE participates in public meeting. Requested by Blue Ridge Environmental Defense League	Marion, N.C.	75
May 4, 1985	DOE briefing for National Conference of State Legislatures	Charleston, S.C.	80
May 14-15, 1985	DOE meeting with 1st and 2nd repository states	Kansas City,	120
May 17, 1985	DOE participates in public meeting for citizens of Asheville, North Carolina	Asheville, N.C.	75
May 20-22, 1985	DOE holds Weighting Workshop on the Screening Methodology for state officials	Columbus, Ohio	50
May 28, 1985	DOE participants in public meeting for southern Vermont citizens	Londonderry, Vermont	350
May 30, 1985	DOE participates in public meeting for central Vermont citizens	Newbury-Wells River, Vermont	2,500
June 4, 1985	DOE participates in public meeting for citizens of western North Carolina sponsored by the Appalachian Consortium	Boone, N.C.	110
June 24, 1985	DOE briefing for the Coal and Energy and Solid Waste Commission of the Virginia General Assembly	Richmond, Va.	50

Crystalline Repository Project Public Interaction Meetings

Date of Meeting	Meeting Participants	Location	Attendance
July 19, 1985	DOE participates in a meeting of the Michigan Governor's Task Force on Nuclear Waste Disposal	Escanada, Michigan	40
August 28, 1985	DOE briefing for the Governor's High Level Waste Task Force, New Hampshire	Concord, N.H.	150
August 29-30, 1985	DOE meeting with all crystalline states on project schedule, FY'86 grants, state access to data, and area phase planning	Boston, Mass.	50
September 11, 1985	DOE briefing for the U.S. Congress. The issuance of the final Regional Characterization Reports is discussed.	Washington, D.C.	25
September 17-20, 1985	DOE holds two day Project Data Base Training Workshop for crystalline states.	Columbus, Ohio	40
September 23, 1985	DOE briefing for the Wisconsin County Board Association	Superior, Wisc.	150
September 24, 1985	Public meeting requested by the New Hampshire Governor's High Level Waste Task Force.	Berlin, N.H.	150
September 26, 1985	DOE briefing for the Gogebic County Board of Commissioners and public.	Bessemer, Mich.	200
September 27-28,	North Central States Regional Conference. DOE attends, but does not have speaking role.	Superior, Wisc.	150
September 30, 1985	Public meeting requested by Governor Joseph Brennan	Rumford, Maine	350
October 1, 1985	DOE briefing for the Maine Legislative Radioactive Waste Advisory Commission	Augusta, Maine	30

Crystalline Repository Project Public Interaction Meetings

Date of Meeting	Meeting Participants	Location	Attendance
October 8, 1985	Public meeting sponsored by the New Hampshire Governor's High Level Waste Task Force	Lebanon, N.H.	100
October 15, 1985	Appearance before the U.S. House Subcommittee on Energy Conservation and Power	St. Paul, Minn.	150
October 22, 1985	Public meeting sponsored by the New Hampshire Governor's High Level Waste Task Force	Gilford, N.H.	135
October 24, 1985	DOE presentation to the educators seminar at the Joint Power Generation Conference	Milwaukee, Wisc.	200
October 28, 1985	Public meeting requested by Congressman William Hendon	Hendersonville, N.C.	60
October 29, 1985	Public meeting sponsored by the New Hampshire Governor's High Level Waste Task Force	Dover, N.H.	125
November 6, 1985	Public meeting sponsored by the New Hampshire Governor's High Level Waste Task Force	Keene, N.H.	300
November 12, 1985	Public meeting sponsored by the New Hampshire Governor's High Level Waste Task Force	Manchester, N.H.	
November 13, 1985	DOE briefing for the Maine Legislative Radioactive Waste Advisory Commission	Augusta, Maine	
November 13, 1985	Public meeting requested by the Maine Legislative Radioactive Waste Advisory Commission in conjunction with the Governor's Office.	Portland, Maine	

NATIONAL CONGRESS OF AMERICAN INDIANS

Question 9:	Does the Department believe that "consultation and cooperation" called for under the NWPA applies equally to the tribes and states?
Answer:	Yes.

NATIONAL CONGRESS OF AMERICAN INDIANS

Question 10: What legal suits have been filed against the Department regarding the implementation of the NWPA? How can tribes be briefed on the nature and status of the pending suits?

Answer:

	Case Name	Court	Issue
1.	State of Nevada v. Herrington	U.S. Court of Appeals for the Ninth Circuit	DOE's denial of Nevada's request for NWPA grant money to collect independent primary "site characterization" data
2.	State of Washington Nuclear Waste Board v. DOE, et al.	U.S. Court of Appeals for the Ninth Circuit	DOE's action in promulgating siting guidelines, and other DOE actions
3.	Environmental Policy Institute, et al., v. Herrington, et al.	U.S. Court of Appeals for the Ninth Circuit	DOE's action in promulgating siting guidelines, and other DOE actions
4.	State of Nevada v. Herrington	U.S. Court of Appeals for the Ninth Circuit	DOE's action in promulgating siting guidelines
5.	State of Minnesota v. DOE, et al.	U.S. Court of Appeals for the Ninth Circuit	DOE's action in promulgating siting guidelines, and other DOE actions
6.	State of Vermont v. DOE, et al.	U.S. Court of Appeals for the Ninth Circuit	DOE's action in promulgating siting guidelines, and other DOE actions

Question 10: (con't.)

7. State of Mississippi v. DOE, et al.	U.S. Court of Appeals for the Ninth Circuit	DOE's action in promulgating siting guidelines, and other DOE actions
8. State of Texas v. DOE, et al.	U.S. Court of Appeals for the Ninth Circuit	DOE's action in promulgating siting guidelines.
9. POWER, Inc., et al. v. DOE	U.S. Court of Appeals for the Ninth Circuit	DOE's action in promulgating siting guidelines.
10. State of Utah v. DOE, et al.	U.S. Court of Appeals for the Ninth Circuit	DOE's action in promulgating siting guidelines.
11. Wisconsin Electric Power Company, et al. v. Herrington	U.S. Court of Appeals for the District of Columbia Circuit	Appropriate level of payment to be made into the Nuclear Waste Fund
12. State of Texas v. DOE, et al., Devin, et al., v. DOE, et al.	Supreme Court of the United States	DOE's action in defining, and identifying and notifying the State regarding potentially acceptable sites
13. General Electric Uranium Management Corporation v. DOE	U.S. Court of Appeals for the District of Columbia Circuit	Appropriate level of payment to be made into the Nuclear Waste Fund

NATIONAL CONGRESS OF AMERICAN INDIANS

Question 10: (con't.)

14. State of Tennessee v. Herrington	U.S. District Court for the Middle District of Tennessee	DOE's study of possible locations for an MRS facility
15. State of Tennessee v. Herrington	U.S. Court of Appeals for the Sixth Circuit	DOE's study of possible locations for an MRS facility

The Department provides information in the OCRWM Bulletin, which is distributed to over 2,500 individuals including representatives of Indian Tribes, regarding lawsuits filed against the Department. The Bulletin includes, for example, information about new lawsuits that have been filed or significant changes in the status of existing lawsuits.

NATIONAL CONGRESS OF AMERICAN INDIANS

Question 11: The Department funds the National Congress of American Indians to disseminate general information about the NWPA to the tribes. What state organizations are funded by the Department to work with NWPA? Please provide a list of the organizations, date of awards and amounts?

Answer: The table below reflects the state organizations funded by the Department, the dates of their financial assistance awards, and the amounts of the awards. The response to Question #1 provides a listing of grant awards made to second repository States.

Grantee	Date of Grant Award	Total Award
National Conference of State Legislatures	July 24, 1984	$217,000
	September 17, 1985	$222,000
Southern States Energy Board	June 3, 1985	$150,000

NATIONAL ASSOCIATION OF REGULATORY UTILITY COMMISSIONERS

Question 1: DOE fails to utilize cost data in its decision-making process.

Answer: Cost data is an important criterion in the decision-making process. Although the highest priority in the waste management program is technical excellence, the DOE is committed to cost-effective program management and decision-making. One example of DOE using cost data in its decision-making process was the decision to include defense waste in the first repository rather than to construct a defense waste-only repository. As discussed in "An Evaluation of Commercial Repository Capacity For the Disposal of Defense High-Level Waste (DOE/DP-0020)", a combined commercial and defense repository is significantly more cost effective than a defense waste-only repository. The other factors considered did not provide a basis for suggesting that one option would be preferable to the other.

NATIONAL ASSOCIATION OF REGULATORY UTILITY COMMISSIONERS

Question 2: DOE's cost estimate for the MRS does not coincide with that of the CBO.

Answer: The CBO cost estimate is based on preliminary designs (December 1982) and extrapolations from that design (October 1983). The designs at that time assumed only a back-up storage role for MRS and not the integrated role presently being considered. DOE's cost estimates are derived from more mature designs and are based on an MRS facility being an integrated component of the radioactive waste management system.

NATIONAL ASSOCIATION OF REGULATORY UTILITY COMMISSIONERS

Question 3: The Mission Plan does not address program delays to date, since deadlines and compliance dates are not compared.

Answer: The Mission Plan was designed to describe the goals, objectives, and strategy of the DOE to manage the nation's high-level radioactive waste and spent fuel. It also describes the component parts and activities related to this effort. It does not compare deadlines and compliance dates, as DOE believes that any delays experienced to date will not substantially affect the ability of the Department to meet the program's goal of a 1998 operations date.

NATIONAL ASSOCIATION OF REGULATORY UTILITY COMMISSIONERS

Question 4: The revised chapter on management is not insightful in explaining operations and control.

Answer: Section 301 of the Nuclear Waste Policy Act (NWPA) of 1982 (PL 97-425) specifies the subjects to be included in the Mission Plan. A detailed description of the Department's program management system was not included among the items required by the Act. However, to provide a more complete description of the nuclear waste program, the Department included in the Mission Plan a chapter on program management. The intent of the program management chapter is to provide an overview of the organization of OCRWM and the management system used for the program.

The Department has also developed a comprehensive Program Management System that defines a set of documents, policies, and procedures to assist in the overall management of the Radioactive Waste Management System. The Program Management System will be used for intergrating the various program elements, projects, and activities into a cohesive, cost-effective program.

NATIONAL ASSOCIATION OF REGULATORY UTILITY COMMISSIONERS

Question 5: DOE has largely dismissed the findings of the Advisory Panel on Alternatives to Managing and Financing Radioactive Waste Facilities, as well as the GAO findings, and has not identified any specific management, advisory, or peer review groups on which to rely.

Answer: The AMFM findings and the Department's responses are discussed in the "Report to the Secretary of Energy on the Conclusions and Recommendations of the Advisory Panel on Alternative Means of Financing and Managing (AMFM) Radioactive Waste Management Facilities."

The Department believes that independent review is an important part of the process by which a repository is sited, constructed, and operated. Review groups have already participated in the early stages of repository development. For example, the National Academy of Sciences is reviewing the methodology to be used to identify preferred sites for recommendation for site characterization. The Academy is expected to contribute additional reviews in the future. The Department has also assembled a group of independent experts, the Performance Assessment Review Group, to examine the performance assessment plans of the repository projects. The MRS group has made extensive use of independent reviewers in preparing their proposal to Congress. Likewise, independent review has been included in the preparation of a number of important transportation related documents. As the repository program continues, the Office of Civilian Radioactive Waste Management

Question 5: (con't.)

expects to assemble similar groups to examine other parts of the work. Other DOE organizations--for example, the Office of Environmental Compliance--also use independent experts in their review of work sponsored by the Department; their reviews have provided significant contributions to the program.

The States in which a repository may be located also provide independent reviews; some of the funds provided by the Department as financial assistance to the States are used for that purpose. The States have already conducted reviews of the draft Environmental Assessments prepared for the nine potentially acceptable sites for the first repository; they will provide further reviews throughout the program.

Independent scientific and technical review of the program will also be provided by the Nuclear Regulatory Commission (NRC). Through its staff and consultants, the NRC will continuously review the Department's work. It has already reviewed the siting guidelines and the draft Environmental Assessments.

NATIONAL ASSOCIATION OF REGULATORY UTILITY COMMISSIONERS

Question 6: NARUC is concerned that contractor and subcontractor spending is not adequately audited, yet it accounts for 85 percent of the total program expenditures.

Answer: In the short period of time since enactment of the Nuclear Waste Policy Act (NWPA) of 1982, the Department has taken positive action to ensure that funds for the Civilian Radioactive Waste Management Program are spent effectively and efficiently and that these expenditures are subjected to all necessary review and audit. In this context, the Department's Office of Civilian Radioactive Waste Management (OCRWM) has made provision for audit coverage of its program and of the Nuclear Waste Fund (NWF) that goes well beyond the annual audit by the Comptroller General required by see 304c of NWPA.

For example, OCRWM contracted with a Certified Public Accounting Firm, Main Hurdman, for an independent annual audit of the NWF financial position and statements of operations. During the first year of that contract, Main Hurdman completed its examination of NWF financial operations for both fiscal years 1983 and 1984. This examination was done in accordance with both generally accepted auditing standards of the private sector and the "Standards for Audit of Governmental Organizations, Progwam, Activities and Functions" issued by the U.S. General Accounting Office.

Question 6: (con't.)

In addition, the Department's Office of Inspector General (IG) entered into an agreement with OCRWM in February 1985 to closely coordinate the planning of audits of the program. The IG has initiated a number of audits to review waste program activities, including OCRWM contractors and subcontractors.

The General Accounting Office performs special reviews as requested by Congress. Routine quarterly and annual reports on the OCRWM program status and progress are also developed by GAO.

NATIONAL ASSOCIATION OF REGULATORY UTILITY COMMISSIONERS

Question 7: The Mission Plan failed to address the differences between civilian and defense waste, and the effect these differences will have on the repository design or the overall program costs.

Answer: The Mission Plan does briefly address the differences between civilian and defense high-level wastes. A fuller, more complete discussion of civilian and defense high-level wastes and the effects of their differences on repository design and overall program costs was incorporated by reference and may be found in "An Evaluation of Commercial Repository Capacity for the Disposal of Defense High-Level Waste" (DOE/DP-0020).

NATIONAL ASSOCIATION OF REGULATORY UTILITY COMMISSIONERS

Question 8: NARUC is concerned that the interests of ratepayers will not be adequately protected in negotiations between DOE-DP and OCRWM over defense program contributions to the Nuclear Waste Fund. The payment decision should receive full public review.

Answer: The payment decision will receive full public review. Prior to the President's determination of April 30, 1985, that defense high-level waste will be disposed of in a commercial repository, the Office of Civilian Radioactive Waste Management and the Office of Defense Programs began analyses of potential cost allocation methodologies to determine the one most equitable to both the taxpayer and the ratepayer. This activity is nearing completion and the Department will issue a Federal Register notice upon the completion of discussions with cognizant Congressional Committees and the Office of Management and Budget to solicit public comments on the proposed allocation of costs. After receipt and consideration of public comments, the Department's recommendation as to the fees to be paid into the Nuclear Waste Fund for the disposal of defense waste will be incorporated into the normal Congressional authorization and appropriations process.

NATIONAL ASSOCIATION OF REGULATORY UTILITY COMMISSIONERS

Question 9: With respect to the MRS, the total system analysis should include a comparison between the MRS portion and the at-reactor portion of the disposal process, since both costs are borne by ratepayers.

Answer: In the consideration of the MRS, the total systems cost analyses include the ratepayer costs for additional at-reactor storage.

CLARK COUNTY NEVADA

Question 1: Since local governments will be impacted most significantly by a waste repository, DOE should assign to these entities a greater role in the decision-making process.

Answer: The Department is committed to providing local governments with the opportunity to become involved in the decision-making process. The Mission Plan and the Internal Guidelines for Interactions with Communities and Local Governments (copy attached) express the commitment to and mechanisms for informing and involving local governments as well as States and Indian Tribes.

DOE/RW-0039

Office of Civilian Radioactive Waste Management

Internal Guidelines for Interactions With Communities and Local Governments

November 1985

U.S. Department of Energy
Office of Civilian Radioactive Waste Management

CLARK COUNTY NEVADA

Question 2: Local governments should participate in the decision-making process for selecting transportation routes, in planning for emergency response, and in addressing questions of liability.

Answer: It is the intention of DOE to actively involve States, Indian Tribes, and local governments in the development of the transportation system. DOE will interact with representatives of all involved parties to ensure that all interests are considered. The draft Transportation Institutional Plan (DOE/RW-0031) provides an extensive discussion as to DOE's program and plans to engage in interactions with those institutions that are affected by radioactive waste shipments. In addition, the previously referenced Internal Guidelines for Interactions with Communities and Local Governments provide principles for involving communities and local governments in all aspects of the Radioactive Waste Management Program. The Department fully encourages local government participation in the selection of transportation routes and in planning for emergency response. DOE also encourages local government involvement in addressing questions related to liability.

CLARK COUNTY NEVADA

Question 3: The Mission Plan inadequately addresses socioeconomic issues, especially the involvement of local communities in efforts to minimize dislocations when demands on local services, police, fire protection, etc., change abruptly.

Answer: The Department believes that the Mission Plan adequately addresses these socioeconomic issues in two sections: Volume I, Part I, Chapter 4 and Volume I, Part II, Chapter 11. Chapter 4 was added to the Mission Plan in response to public concerns that the draft did not adequately address the role of States and affected Indian Tribes in the implementation of the Department's waste management program. An entire section of Chapter 4 is devoted to socioeconomic issues and focuses on the DOE's plans for analysis and mitigation of socioeconomic impacts. The Department believes it is of the utmost importance that the potential for such impacts be assessed in a thorough and timely manner, with adequate planning to avoid, minimize, or mitigate any negative impacts. States, affected Indian Tribes, and local communities will pursue parallel paths with the Department in their assessment and planning efforts. For example, DOE will conduct socioeconomic impact assessments for the Environmental Assessments and the Environmental Impact Statement. States and affected Indian Tribes may conduct their own socioeconomic impact assessments to develop and document their requests for mitigation grants in the repository program. DOE will work closely with States, affected Indian Tribes, and localities during this process to achieve a common understanding of the

Question 3: (con't.)

issues that need to be addressed, the impacts that will need to be mitigated, and the analytical tools that will need to be used. Some of these efforts will be specified in the Consultation and Cooperation Agreements. In addition, financial and technical support will be made available to States and Indian Tribes affected by repository activities for the development of their impact reports.

Because many socioeconomic impacts, such as increased demand for public services, will affect local governmental units directly, the Department will encourage the participation of local governments in the development of these impact reports as early and as fully as possible. As stated in Chapter 4 of the Mission Plan, all possible means of financial and technical assistance will be explored to ensure that local communities can effectively participate in the siting program.

In addition to working with States, affected Indian Tribes, and localities to conduct socioeconomic assessment studies, the Department will work with these affected parties to develop

Question 3: (con't.)

impact mitigation plans that describe ways to augment community services, as well as ways to minimize disruptions and maximize the benefits of new economic activities related to program activities. The Department will also provide funding for these mitigation efforts as allowed by the Act.

While Chapter 4 of the Mission Plan outlines the Department's institutional plans and activities, the purpose of Chapter 11 is to indicate the types of socioeconomic impacts that may be associated with the Department's waste management activities, especially a repository. There will be frequent opportunities in the future for interested parties to offer comments to the Department on possible site-specific impacts. DOE recognizes that this preliminary identification of types of socioeconomic impacts and the draft Environmental Assessments are only the first steps of the socioeconomic analysis to be done. Chapter 11 was expanded in response to public concerns that the draft was insufficient. It is, however, beyond the scope of the Mission Plan to address site-specific impacts. These more detailed site analyses are the subject of the final Environmental Assessments, the Environmental Impact Statement, and the impact reports to be developed by the States and affected Indian Tribes.

SERIOUS TEXANS AGAINST NUCLEAR DUMPING (STAND)

Question 1: The site selection process should be restarted so as to be able to undertake a nationwide screening of all suitable geological media to identify the best possible site.

Answer: To begin another national screening process for the first repository is inconsistent with the requirements of the Nuclear Waste Policy Act, which specifies that the potentially acceptable sites for the first repository be identified shortly after the Act was passed. The requirement for the identification of potentially acceptable sites was derived from Congress' recognition that DOE had been conducting screening studies for several years.

SERIOUS TEXANS AGAINST NUCLEAR DUMPING (STAND)

Question 2:	During seismic studies in Texas, DOE personnel purposely misrepresented themselves, posing as oil company representatives, when contacting people for rights of way.
Answer:	This charge has been investigated among our contractors without substantiation. Our review has uncovered no instance in data collection efforts in the Texas Panhandle or any other state that DOE personnel or those of its contractors or subcontractors have "purposely misrepresented" themselves. This charge has been made at meetings over the past two years and usually comes from speakers quoting someone else to whom it ostensibly occurred. Each time the charge has been heard, DOE has requested that the speaker or anyone who has direct and personal knowledge of a representative from DOE, its contractors or subcontractors misrepresenting themselves provide the facts of the case in writing, including, if possible, the name of the individual, the name of the company they purported to represent, the date of the occurrence, and to whom the individual misrepresented himself or herself. This information has not been provided.

SERIOUS TEXANS AGAINST NUCLEAR DUMPING (STAND)

Question 3: DOE has not provided information in Spanish that was requested by Hispanic residents in Texas. DOE denies ever having received these requests.

Answer: The Department is preparing a variety of public information materials in Spanish in response to requests to provide information to the Spanish-speaking residents of Texas. Requests have come from (1) Texas Agriculture Commissioner Jim Hightower on behalf of Spanish speaking residents of Texas, (2) commenters at public hearings, and (3) other individuals in letters to the Department.

In response to these requests, the Department is preparing a variety of public information materials in Spanish, including audio-visual presentations and fact sheets. If the Deaf Smith County site is recommended for characterization, the Department will provide additional materials in Spanish. In particular, the Department will seek to improve the ability of personnel at its information offices in Texas to assist Spanish-speaking residents and facilitate the participation of Spanish-speaking residents in public meetings and hearings.

SERIOUS TEXANS AGAINST NUCLEAR DUMPING (STAND)

Question 4: DOE information on the Swisher and Deaf Smith County sites is deficient (under-estimates total number of irrigation wells, omits the largest well in Deaf Smith area, etc.) and insufficient for responsible site selection or determination of site suitability.

Answer: In the draft Environmental Assessments (EAs) for Deaf Smith County and Swisher County sites, the DOE used all information known regarding well locations and water use to support site selection and site suitability determinations. In response to comments on the draft EA that water-wells had been overlooked, DOE met with the Texas Department of Water Resources to obtain the State's best available records of water well locations and water use. This more complete information will be incorporated into Section 3.3.3.1 of the final EA by including maps and tables to identify and describe wells within 4.5 miles from site center.

SERIOUS TEXANS AGAINST NUCLEAR DUMPING (STAND)

Question 5:	Significant property devaluation has already occurred in the Swisher and Deaf Smith County areas, yet DOE refuses to acknowledge this problem, let alone admit it will become a problem in the future if the repository is located in Texas.
Answer:	Residents located near the Texas site have voiced their concern about actual and potential devaluation of land values in public meetings held by the Department. These issues were also raised at a field hearing conducted by Senator Lloyd Bentsen of Texas held at Herford, Texas in early 1985. The Department is concerned about this issue and at each instance, as did Senator Bentsen, Departmental Officials have asked those individuals raising the issue to provide specific information and data to substantiate their claims relating to any devaluation that has already taken place. To date, no such information has been provided.

EDISON ELECTRIC INSTITUTE

Question 1: DOE eliminated the statutorily-mandated schedules from its final Mission Plan, and has failed to report schedule slippages to Congress as required in the NWPA.

Answer: The January 1998 date for initiation of operations of the First Geologic Repository is considered to be the most important milestone required by the Act. The Department has repeatedly stated its commitment to meeting this date and the Mission Plan lays out in comprehensive manner the strategy, objectives, and schedules required to successfully meet this principal objective. At various times, we have not met several near-term milestones considering that the additional time spent developing baseline documents (e.g., Siting Guidelines) in the interests of achieving a higher standard of quality would be time well spent and would assure a higher probability of achieving the operation of the repository by January 1998.

The Department, although not formally required to report schedule slippages to Congress, has, through the appropriation process, formal testimony, formal and informal briefings to Committee Staff, briefings to cognizant members of Congress, submission of letters notifying appropriate Congressional Committees of delays, and the submission of other required reports (e.g., OCRWM Annual Report, Fee Adequacy Report, etc.), consistently kept Congress informed as to the status and progress of the program.

EDISON ELECTRIC INSTITUTE

Question 2: Utilities should be able to participate in the negotiations with DOE-DP to develop cost allocation formulae for the defense-waste portion of the program. If the decision is made solely within DOE, it could be inherently arbitrary, potentially biased, and an abuse of the administrative process.

Answer: Prior to the President's determination of April 30, 1985, that defense high-level waste will be disposed of in a commercial repository, the Office of Civilian Radioactive Waste Management and the Office of Defense Programs began analyses of potential cost allocation methodologies to determine the one considered to be most equitable to both the taxpayer and the ratepayer, and which adheres to the Nuclear Waste Policy Act. This activity is nearing completion and the Department will issue a Federal Register notice upon the completion of discussions with cognizant Congressional Committees and the Office of Management and Budget soliciting public comments on the analyses. After receipt and consideration of public comments, the Department's recommendation as to the fees to be paid into the Nuclear Waste Fund for the disposal of defense waste will be incorporated into the normal Congressional authorization and appropriations process.

ENVIRONMENTAL POLICY INSTITUTE

Question 1: EPI disagrees with DOE's interpretation of the timing of the preliminary determination of site suitability. Furthermore, in light of NRC's concurrence with DOE's siting guidelines, the recent DOE interpretation jeopardizes NRC's credibility as an independent regulatory agency overseeing the DOE waste program.

Answer: The Nuclear Waste Policy Act does not specify the time at which a preliminary determination of suitability must be made. The Department believes that, in the absence of precise specification, that timing decision is left to the discretion of the Secretary. In this regard, the decision of when to make the preliminary determination is a management or programmatic decision and is one related to the DOE management of its resources and the overall repository program.

The purpose of the preliminary determination is to add assurance that the three sites selected for characterization, an effort that will involve large sums of money, have a high probability of being found acceptable. The Act does not specify any finding to accompany the recommendation of sites to the President for characterization. A preliminary determination that sites recommended to the President are suitable for development as repositories on a preliminary basis would provide a basis for the recommendation that would otherwise be missing. Consequently, the Department plans to make the preliminary determination at the time it recommends to the President the sites for characterization.

ENVIRONMENTAL POLICY INSTITUTE

Question 1: (con't.)

With regard to the Department's interpretation as to the timing of the preliminary determination jeopardizing NRC's credibility, the NRC, by letter dated October 24, 1985 indicated that " . . . the Commission has agreed that DOE's modified position does not require any change in NRC's prior concurrence in DOE's siting guidelines. A public statement is currently being prepared to restate the Commission's concurrence."

ENVIRONMENTAL POLICY INSTITUTE

Question 2: EPI interprets the NWPA as requiring that DOE accept commercial waste when the waste repository is operable, but not necessarily by the date of January 31, 1998. DOE's interpretation (1998 acceptance date) is seriously distorting that function of that program and driving it to adopt entirely counterproductive policies.

Answer: DOE believes that Congress intended the Department to use its best efforts in meeting the 1998 goal of the Nuclear Waste Policy Act. The Department believes that it can meet that schedule goal without compromising the program objective of developing a safe and technically sound repository.

ENVIRONMENTAL POLICY INSTITUTE

Question 3:	In analyzing the benefits of an integrated MRS, DOE has only studied its benefits in terms of reducing shipment miles, and has ignored its impact on public and occupational exposure.
Answer:	DOE will consider all of these attributes in its analysis of the MRS.

ENVIRONMENTAL POLICY INSTITUTE

Question 4:	The information provided in the Mission Plan on the MRS proposal is insufficient to permit decisions to be made, as required by Section 301 of the NWPA.
Answer:	The Department believes that the Mission Plan provides sufficient information related to the Department's plans for the role of an MRS facility in an integrated radioactive waste management system. Section 1.2.1 of the Mission Plan contains an extensive discussion of the role of an MRS facility, the advantages of an MRS facility that is part of an integrated waste-management system, the facilities and operations of an integral MRS facility, the design basis, the approach to MRS development, and the schedule. All of these areas will be addressed in greater detail in the MRS proposal to Congress.

ENVIRONMENTAL POLICY INSTITUTE

Question 5: For the first repository, DOE is selecting from sites chosen before enactment of the NWPA solely in order to meet the 1998 deadline.

Answer: At the direction of Congress, DOE is selecting a first repository from among sites having been investigated before enactment of the Nuclear Waste Policy Act (NWPA). During consideration of the NWPA, the status of DOE's siting program was well documented before Congress. In passing the NWPA, Congress required DOE to identify "potentially acceptable sites" within 90 days of the enactment of the statute. Such identification would have been impossible if DOE had not been able to use the results of its earlier site screening efforts.

ENVIRONMENTAL POLICY INSTITUTE

Question 6:	DOE did not identify or develop any contingency plans (in the Mission Plan) in the event of schedule disruptions.
Answer:	Section 2.4 of Volume I Part I of the Mission Plan provides an overview of the Department's contingency plans should the first repository be delayed significantly. In addition, the Department is developing contingency plans for each of the program areas below the level of detail discussed in the Mission Plan.

ENVIRONMENTAL POLICY INSTITUTE

Question 7: DOE should seek a totally independent scientific and technical review of its Nuclear Waste program. The review should include an appraisal of the site selection and data collection activities, as well as careful scrutiny of DOE contractor activities.

Answer: The Department believes that independent review is an important part of the process by which a repository is sited, constructed, and operated. Review groups have already participated in the early stages of repository development. For example, the National Academy of Sciences is reviewing the methodology to be used to identify preferred sites for recommendation for site characterization. The Academy is expected to contribute additional reviews in the future. The Department has also assembled a group of independent experts, the Performance Assessment Review Group, to examine the performance assessment plans of the repository projects. The MRS group has made extensive use of independent reviewers in preparing their proposal to Congress. Likewise, independent review has been included in the preparation of a number of important transportation related documents. As the repository program continues, the Office of Civilian Radioactive Waste Management expects to assemble similar groups to examine other parts of the work. Other DOE organizations--for example, the Office of Environmental Compliance--also use independent experts in their review of work sponsored by the Department; their reviews have provided significant contributions to the program.

Question 7: (con't.)

Answer: The States in which a repository may be located also provide independent reviews; some of the funds provided by the Department as financial assistance to the States are used for that purpose. The States have already conducted reviews of the draft Environmental Assessments prepared for the nine potentially acceptable sites for the first repository; they will provide further reviews throughout the program.

Independent scientific and technical review of the program will also be provided by the Nuclear Regulatory Commission (NRC). Through its staff and consultants, the NRC will continuously review the Department's work. It already has reviewed the siting guidelines and the draft Environmental Assessments.

J. I. PALMER (MISSISSIPPI)

Question 1:	DOE did not submit the "comment response document" back to the states prior to formal submittal of the final Mission Plan to Congress. This was an attempt to "thwart (the states') review of (DOE's) treatment of the comments ..."
Answer:	The Nuclear Waste Policy Act, in Section 301, which required the Department to prepare a Mission Plan to be utilized in the management of the program, did not require that the Comment Response Document be submitted to the States and Indian Tribes for their review prior to the submission of the Mission Plan and Comment Response Document to Congress. However, DOE took additional steps beyond NWPA requirements to assure full opportunity to affected parties to participate in development of the Mission Plan. For example, in addition to the formal draft provided in the summer of 1984, a working draft was earlier shared with the States, Indian Tribes, utilities, and other affected parties in December of 1983. Input from these two reviews were incorporated into the Mission Plan formally provided to Congress earlier this year. Moreover, each commentor was provided courtesy copies of all other comments received so that each participant would have the complete package. Finally, at meetings with States and Indian Tribes, the key conclusions of the Mission Plan were shared with them a number of months prior to the issuance of the document.

J. I. PALMER (MISSISSIPPI)

Question 2:	With regard to C&C agreements: "too often, DOE has engaged in mere 'notification' regarding particularly sensitive issues, thereby eliminating any possibility of ... two-way interchange ..." and "We are drawn into the picture in a perfunctory, after-the-fact, 'review and comment' posture."
Answer:	DOE has attempted, throughout the course of the implementation of the Nuclear Waste Policy Act, to engage all interested parties, including States and Indian Tribes, in a constructive dialogue. DOE representatives have met with representatives from States, Indian Tribes, local governments, and other interested parties innumerable times in various forums (e.g., public hearings, briefings, workshops, informal meetings, etc.) over the last several years. There has been, quite obviously, an extensive interchange of information, opinions, and positions during these sessions.

DOE has also, in the last calendar year, responded to a significant number of letters from State, Indian Tribe, and local governmental officials. For example, in one four month period in the 1985, DOE received from and/or sent to State, Tribal, and local officials over 850 letters. Many of these letters transmitted substantive comments on major program documents or requested specific information about specific aspects of the program. DOE either considered the comment submitted in revising the documents for which comments were requested or responded directly to the State, Indian Tribe, or local official with the information requested.

J. I. PALMER (MISSISSIPPI)

Question 2: (con't.)

In order to directly involve potentially affected parties in the program, DOE has issued for comment, even when not required to by the NWPA, a number of documents such as the Draft Mission Plan and Draft Environmental Assessments. Comments received were individually evaluated and carefully considered by DOE in the development of the final documents. In many cases, comments provided valuable information and/or insights into specific aspects of the documents which led us to modify them.

J. I. PALMER (MISSISSIPPI)

Question 3: With respect to the draft EA's:
"DOE deliberately foreclosed all opportunity to review and critique three of the principal chapters of the draft EAs prior to their release to the general public, while allowing the states and tribes an opportunity to review several successive earlier drafts of the remaining chapters" and "DOE had no intention of allowing the states to even review - let alone influence - the most critical elements of the EA's ..."

Answer: The Department made available to the States and Indian Tribes, early working drafts of a number of chapters of the Draft Environmental Assessments (EA) prior to their issuance in December 1984. These working drafts were made available to the States and Indian Tribes principally for the purpose of validating site specific data. The Department did not make available those chapters that evaluated the suitability of the site for development as a repository under the Siting Guidelines and the comparative evaluation of sites.

The NWPA did not require the Department to issue either Draft EA's for review and comment nor make available drafts of chapters of the draft EA's. The Department, however, concluded that in the spirit of the NWPA, which places a high priority on State and Indian Tribe interaction, that it would be appropriate to share information as it became available and as working drafts of chapters were completed.

J. I. PALMER (MISSISSIPPI)

Question 3: (con't.)

In view of the number of comments received on the EAs, the informal working meetings, the public hearings, and other interactions, the States were provided extensive opportunities to participate in the preparation of the EAs.

J. I. PALMER (MISSISSIPPI)

Question 4: With respect to recent DOE decisions on the MRS, "DOE has selectively manipulated, or rather prostituted, Congressional intentions regarding consultation and cooperation."

Answer: The record will clearly demonstrate that extensive interactions have occurred with the State of Tennessee and local governments and that DOE has participated in numerous public meetings to discuss and receive input on the MRS at times and places designated by Tennessee officials. The Department is committed to providing the State of Tennessee with the opportunity for the fullest possible participation in the program. DOE will continue to work with Tennessee to facilitate full participation. To this end, DOE has provided the State of Tennessee a grant in the amount of $1.4 million to fund their participation in the process.

The Department has facilitated independent State review by a program of grants and extensive information transfer. The scope and schedule of this program has been developed cooperatively with Tennessee. Through this interaction, the Department will work to resolve any questions or concerns by Tennessee regarding MRS authorization or deployment.

The Department will seek to enter into a formal consultation and cooperation agreement with the State of Tennessee should Congress authorize construction of an MRS facility.

J. I. PALMER (MISSISSIPPI)

Question 4: (con't.)

The Department will also develop an outreach and participation plan for the MRS, as provided for by the Mission Plan. This plan will specify the activities that the Department will implement to ensure that Tennessee and other affected parties have the desired opportunities for input into program decisions. The plan will be based on information received from Tennessee and other affected parties.

J. I. PALMER (MISSISSIPPI)

Question 5:	Because of DOE's lack of sharing of technical information, Mississippi had to file an FOIA request in 1980 and has imposed a conditional moratorium on all new data acquisition studies pending results of its original information request.
Answer:	Adhering to a policy of active consultation and open information, the Department of Energy (DOE) in 1976 outlined the purposes of the national nuclear waste management program and State-specific plans in letters to 36 State Governors and Congressional delegations, including those of Mississippi. In 1976-77, the Mississippi Bureau of Geology (BOG) was asked if it wanted to conduct studies for this program. The BOG declined, citing other commitments. There followed in February, July, and October 1977, and in September 1978, briefings for Mississippi State executive and legislative officials to explain plans for technical studies and for the consultation process.

After briefing citizens in November 1978 (in Richton and Columbia), and the Governor's Select Committee on Nuclear Energy and Nuclear Waste Repository in March 1979, DOE began preliminary geologic field tests at the Richton and Cypress Creek salt domes in Perry County, and Lampton Dome in Marion County. Eight salt domes in the interior Gulf Coast region were under evaluation at that time. Tests proceeded under a State-DOE agreement signed in Jackson on May 29, 1979. The Governor's Select Committee was briefed on November 29, 1979, on the status of DOE studies in the State.

J. I. PALMER (MISSISSIPPI)

Question 5: (con't.)

In February 1980, Attorney General William Allain filed a Freedom of Information Act request for documents "relative to the consideration, evaluation, testing, examination or review" of Mississippi salt domes. In response, DOE provided over 30 shipping cases of documents and data from field work.

In March 1980, Governor William Winter requested of DOE "that the initiation of any further regional and/or future site-characterization investigation beyond the current agreed-upon scope of work in the State of Mississippi be deferred until all those pertinent data, evaluation, conclusions and recommendations of DOE, USGS, and any other DOE contractor or subcontractor, be submitted to the State of Mississippi for review and comment and (to) the appropriate State agencies." DOE agreed on April 17, 1980 to the requested deferral, subsequently referred to by State officials as a "moratorium."

Based on field studies and in consultation with Mississippi State officials and agencies, the DOE in March 1982 issued a final report evaluating the suitability of Gulf Coast salt domes for further study. Pursuant to the Nuclear Waste Policy Act, effective January 7, 1983, the Department proposed the nomination of the Richton and Cypress Creek salt domes in Mississippi as potentially acceptable sites.

J. I. PALMER (MISSISSIPPI)

Question 6: The recent GAO audit "found such a paucity of public acceptance of the program that GAO felt obliged to even make specific recommendations for DOE to consider in efforts to establish some semblance of credibility about what they are doing."

Answer: Despite a national consensus, as reflected by the enactment of the Nuclear Waste Policy Act of 1982, that Radioactive Waste requires safe and permanent disposal, DOE agrees that, with regard to the site specific implementation of the Radioactive Waste Management Program, there is limited public acceptance. It should be noted, however, that the issues of public acceptance and the credibility of the program are not necessarily synonymous. The Department is conducting a credible program with emphasis on technical soundness and concentration on the protection of public health, safety, and the environment. As the public, through an expanded public information program, becomes more aware of the program, greater public acceptance should become evident.

J. I. PALMER (MISSISSIPPI)

Question 7: States and Tribes as peer reviewers: DOE has not provided adequate funding or time for the states or tribes to be considered "peer reviewers," as DOE expects them to be.

Answer: The Department believes that it has provided adequate funding and time for States and affected Indian Tribes to participate effectively in reviewing the program. Under DOE's internal financial assistance guidelines, States and Indian Tribes can request funds to review and comment on program documents. First repository States and Indian Tribes have been provided funds for review and comment on such documents as the Environmental Assessments and the Mission Plan and for travel to workshops and meetings concerning program documents. Second repository States have also been provided funds for these activities. Second repository Indian Tribes have recently been informed of the availability of funding to review the Area Recommendation Report and related documents, such as the Screening Methodology Document and the Regional Characterization Report. The attached table displays the grants made to States and Indian Tribes.

The Department recognized in the Mission Plan that there were a number of issues and problems associated with State and affected Indian Tribes ability to develop full participation capabilities with regard to the radioactive Waste Management Program. The Department has, over the course of the last two fiscal years, made grants totalling over $20,000,000 to twenty-three states

J. I. PALMER (MISSISSIPPI)

Question 7: (con't.)

and three Indian Tribes to assist them, not only in developing the capability to review, but also for actual participation in the process. In addition, the Department has awarded grants to two national organizations to provide for critical liaison functions between DOE and States and Indian Tribes. Volume I, Part II, Section 3.2.1 and 3.2.2 of the Mission Plan addresses this issue in greater detail.

GRANT BREAKDOWN REPORT

OFFICE OF CIVILIAN RADIOACTIVE WASTE MANAGEMENT
OFFICE OF GEOLOGIC REPOSITORIES

STATE/TRIBE/ ORGANIZATION	GRANT AMENDMENT/ MODIFICATION	B&R NUMBER	DATE SIGNED BY DOE*	DATE SIGNED BY GRANTEE*	GRANT ACTIONS	BUDGET START	BUDGET END	OBLIGATION	CUMULATIVE OBLIGATION
PROJECT OFFICE: BWIP									
WA	DE-FG06-83RL10417								
	.A000	AP052005	10/22/82	11/01/82	NG/NF	10/22/82	03/31/83	$ 171,485	$ 171,485
	.M001	AP052005	04/01/83	04/13/83	EBP/EPP	10/22/82	04/30/83	0	171,485
	.A002	AP052005	04/29/83	05/06/83	NF/EBP/EPP/NB	10/22/82	09/30/83	178,478	349,963
	.A003	DB40	05/20/83	Not Signed	ADJ/O-1	10/22/83	05/20/83	(229,963)	120,000
	.A004	DB40	09/30/83	Not Signed	DEOB CO	10/22/83	05/20/83	(13,303)	106,697
WA	DE-FG06-83RL10442								
	.A000	DB40	05/20/83	06/02/83	NG/NF	05/20/83	09/30/83	$ 229,963	$ 229,963
	.M001	DB40	08/12/83	08/24/83	NCBR	05/20/83	09/30/83	0	229,963
	.M002	DB40	09/27/83	10/07/83	NBP/EPP	10/01/83	11/30/83	0	229,963
	.A003	DB40	11/23/83	12/20/83	NF/COF/EBP/NB	10/01/83	09/30/84	651,602	881,565
	.A004	DB40	02/10/84	02/24/84	ADJ/NB	10/01/83	09/30/84	15,716	897,281
	.A005	DB40	02/21/84	03/12/84	NF/NB	10/01/83	09/30/84	138,845	1,036,126
	.M006	DB40	03/09/84	03/21/84	NCBR	10/01/83	09/30/84	0	1,036,126
	.M007	DB40	09/24/84	09/28/84	NBP/EPP	10/01/84	10/31/84	0	1,036,126
	.A008	DB40	10/12/84	10/29/84	NF/COF/EBP	10/01/84	09/30/85	1,433,697	2,469,823
	.A009	DB40	07/16/85	07/24/85	NF/COF/NB/O-2	10/01/84	09/30/85	18,176	2,487,999
	.M010	DB010110	09/23/85	Not Signed	NCBR/NB	10/01/84	09/30/85	0	2,487,999
	.M011	DB40	09/25/85	10/17/85	NBP/EPP/O-3	10/01/85	10/31/85	0	2,487,999
	.A012	DB40	10/23/85	Not Signed	NF/COF/EBP/NB/SOW/O-4	10/01/85	12/31/85	461,740	2,949,739
WA	DE-FG06-85RL10718								
	.A000	DB3010010	01/03/85	Not Given	NG/NF	10/19/84	09/30/85	$ 247,474	$ 247,474
	.M001	DB010110	12/31/84	01/08/85	O-5	10/19/84	09/30/85	0	247,474
	.M002	DB010110	02/08/85	Not Given	O-6	10/19/84	09/30/85	0	247,474
	.M003	DB010110	09/25/85	Not Signed	NBP/EPP/O-7	10/01/85	10/31/85	0	247,474
	.A004	DB010110	10/28/85	Not Signed	NF/EBP/NB/SOW/O-8	10/01/85	12/31/85	278,133	525,607

ACTION CODES

ADJ - Adjusts obligated/unexpended funds
CO - Closes out grant
COF - Authorizes carry over funds
DEOB CO - Deobligates unexpended funds and closes out grant
EBP - Extends budget period

EPP - Extends project period
GAP - NFAA missing from HQ's files
NB - Provides new budget
NBP - Establishes new budget period
NCBR - No cost revision of current budget
NF - Obligates new funds

NFI - Obligates new funds (increment of approved budget)
NG - Establishes new grant
O - Other (refer to list at end of report)
SOW - Provides new scope of work
TR - Travel requirement (usually requires written approval from DOE before travel to certain meetings)

GRANT BREAKDOWN REPORT (Continued)

STATE/TRIBE/ ORGANIZATION	GRANT AMENDMENT/ MODIFICATION	DBR NUMBER	DATE SIGNED BY DOE*	DATE SIGNED BY GRANTEE*	GRANT ACTIONS	BUDGET START	BUDGET END	OBLIGATION	CUMULATIVE OBLIGATION
NP[1]	DE-FG06-85RL10722								
	.A000	DB4010000	12/14/84	12/19/84	NG/NF	12/14/84	12/31/84	$ 18,311	$ 18,311
	.A001	DB010110	12/27/84	01/25/85	NF/EBP/EPP/NB/SOW	12/14/84	09/30/85	508,257	526,568
	.M002	DB010110	09/25/85	Not Signed	NBP/EPP/O-9	10/01/85	10/31/85	0	526,568
	.A003	DB010110	10/28/85	11/07/85	NF/COF/EBP/NB/SOW/O-10	10/01/85	12/31/85	272,330	798,898
UI[2]	DE-FG06-84RL10600								
	.A000	DB3010010	05/10/84	05/17/84	NG/NF	05/01/84	09/30/84	$ 218,894	$ 218,894
	.A001	DB3010010	08/13/84	08/16/84	NF/NB	05/01/84	09/30/84	53,803	272,697
	.M002	DB3010010	09/24/84	09/26/84	NBP/EPP	10/01/84	10/31/84	0	272,697
	.M003	DB3010010	10/11/84	10/25/84	EBP	10/01/84	11/30/84	0	272,697
	.M004	DB3010010	11/30/84	12/04/84	EBP/O-11	10/31/84	12/31/84	0	272,697
	.A005	DB010110	12/27/84	01/04/85	NF/COF/EBP	10/01/84	09/30/85	552,315	825,012
	.A006	DB010110	02/28/85	03/04/85	ADJ	10/01/84	09/30/85	(5,193)	819,819
	.M007	DB010110	08/23/85	09/04/85	NCBR	10/01/84	09/30/85	0	819,819
	.M008	DB010110	09/25/85	10/04/85	NBP/EPP/O-12	10/01/85	10/31/85	0	819,819
	.A009	DB010110	10/28/85	11/08/85	NF/COF/EBP/NB/SOW/O-13	10/01/85	12/31/85	262,450	1,082,269
VI[3]	DE-FG06-83RL10545								
	.A000	DB3010010	08/04/83	08/10/83	NG/NF	07/18/83	09/30/83	$ 216,583	$ 216,583
	.M001	DB3010010	09/27/83	Not Signed	NBP/EPP	10/01/83	11/30/83	0	216,583
	.M002	DB3010010	11/25/83	12/05/83	EBP/EPF	10/01/83	12/31/83	0	216,583
	.A003	DB4010000	12/22/83	12/28/83	NF/EBP/EPP/NB	10/01/83	09/30/84	220,000	436,583
	.A004	DB4010000	05/10/84	05/21/84	NF/COF/NB/SOW	10/01/83	09/30/84	717,331	1,153,914
	.M005	DB4010000	08/03/84	10/01/84	O-14	10/01/83	09/30/84	0	1,153,914
	.M006	DB4010000	09/24/84	10/01/84	EBP/EPP	10/01/84	10/31/84	0	1,153,914
	.M007	DB4010000	10/11/84	10/25/84	EBP	10/01/84	12/31/84	0	1,153,914
	.A008	DB010110	12/27/84	01/28/85	NF/COF/EBP/NB	10/01/84	09/30/85	902,342	2,056,256
	.A009	DB010110	02/14/85	03/21/85	ADJ	10/01/84	09/30/85	90,596	2,146,852
	.M010	DB010110	09/23/85	Not Given	O-15	10/01/84	09/30/85	0	2,146,852
	.M011	DB010110	09/25/85	09/30/85	NBP/EPP/O-16	10/01/85	10/31/85	0	2,146,852
	.A012	DB010110	10/28/85	Not Signed	NF/COF/EBP/NB/SOW/O-17	10/01/85	12/31/85	491,540	2,638,392

ACTION CODES

ADJ - Adjusts obligated/unexpended funds
CO - Closes out grant
COF - Authorizes carry-over funds
DEOB-CO - Deobligates unexpended funds and closes out grant
EBP - Extends budget period

EPP - Extends project period
GAP - NFAA missing from HQ's files
NB - Provides new budget
NBP - Establishes new budget period
NCBR - No cost revision of current budget
NF - Obligates new funds

NFI - Obligates new funds (increment of approved budget)
NG - Establishes new grant
O - Other (refer to list at end of report)
SOW - Provides new scope of work
TR - Travel requirement (usually requires written approval from DOE before travel to certain meetings)

GRANT BREAKDOWN REPORT (Continued)

STATE/TRIBE/ ORGANIZATION	GRANT AMENDMENT/ MODIFICATION	B&R NUMBER	DATE SIGNED BY DOE*	DATE SIGNED BY GRANTEE*	GRANT ACTIONS	BUDGET START	BUDGET END	OBLIGATION	CUMULATIVE OBLIGATION
PROJECT OFFICE: NNWSI									
NV	DE-FG08-83NV10319								
	.A000	AP052005	03/03/83	03/04/83	NG/NF	03/03/83	09/30/83	$ 350,000	$ 350,000
	.A001	DB4020	04/09/84	Not Given	NF/COF/NBP/NB	10/01/83	09/30/84	646,083	996,083
	.M002	Not Given	09/28/84	10/02/84	EBP/EPP	10/01/83	11/30/84	0	996,083
	.M003	Not Given	11/27/84	12/03/84	EBP/EPP	10/01/83	02/28/85	0	996,083
NV	DE-FG08-85NV10461								
	.A000	DB0102	01/31/85	02/11/85	NG/NF	02/01/85	12/31/85	$1,898,778	$1,898,778
PROJECT OFFICE: SRPO									
LA	DE-FG97-79ET46611								
	.A000	Not Given	07/10/79	Not Given	NG/NF	07/15/79	07/14/80	$ 25,000	$ 25,000
	.A001	Not Given	11/01/79	Not Given	NF/NBP/EPP/NB/SOW	09/17/79	09/16/80	50,000	75,000
	.M002	Not Given	02/18/81	Not Signed	EBP/LPP	09/17/79	09/16/81	0	75,000
LA	DE-FG97-81NE46637								
	.A000	AP051515	03/06/81	03/23/81	NG/NF	03/06/81	09/30/81	$ 117,067	$ 117,067
	.M001	Not Given	08/07/81	08/25/81	EBP	03/06/81	03/05/82	0	117,067
	.A002	AP052005	04/06/82	04/22/82	NF/EBP/EPP	03/06/81	03/05/83	58,533	175,600
	.M003	Not Given	08/31/82	09/15/82	NCBR	03/06/81	03/05/83	0	175,600
	.M004	Not Given	02/18/83	02/28/83	COF/EBP/EPP/NB	03/06/81	02/29/84	0	175,600
	.M005	Not Given	02/17/84	04/16/84	EBP/EPP/NCBR	03/06/81	03/15/84	0	175,600
	.A006	DB010310	06/20/85	Not Given	DEOB CO	03/06/81	03/15/84	(45,949)	129,651
LA	DE-FG97-84WM46652								
	.A000	DB4030	01/04/84	01/11/84	NG/NFI	01/04/84	01/03/85	$ 433,000	$ 433,000
	.A001	DB4030	09/26/84	10/01/84	NFI/EBP/EPP	01/04/84	09/30/85	100,319	533,319
	.A002	DB010310	11/06/84	11/26/84	NF/NB/SOW	01/04/84	09/30/85	300,000	833,319
	.M003	GAP	GAP	GAP	EBP/EPP/GAP	---	---	---	833,319
	.A004	DB010310	Not Signed	Not Signed	NF/EBP/EPP/NB/SOW	01/04/84	09/30/86	517,220	1,350,539
MS	DE-FG97-79WM10010								
	.A000	Not Given	12/11/78	Not Given	NG/NF	12/15/78	12/14/79	$ 25,000	$ 25,000

ACTION CODES

ADJ - Adjusts obligated/unexpended funds
CO - Closes out grant
COF - Authorizes carry over funds
DEOB CO - Deobligates unexpended funds and closes out grant
EBP - Extends budget period

EPP - Extends project period
GAP - NFAA missing from HQ's files
NB - Provides new budget
NBP - Establishes new budget period
NCBR - No cost revision of current budget
NF - Obligates new funds

NFI - Obligates new funds (increment of approved budget)
NG - Establishes new grant
O - Other (refer to list at end of report)
SOW - Provides new scope of work
TR - Travel requirement (usually requires written approval from DOE before travel to certain meetings)

GRANT BREAKDOWN REPORT (Continued)

STATE/TRIBE/ ORGANIZATION	GRANT AMENDMENT/ MODIFICATION	B&R NUMBER	DATE SIGNED BY DOE*	DATE SIGNED BY GRANTEE*	GRANT ACTIONS	BUDGET START	BUDGET END	OBLIGATION	CUMULATIVE OBLIGATION
MS	DE-FG44-80R410282								
	.A000	AP051515	09/04/80	09/05/80	NG/NF	07/01/80	09/30/81	$ 429,730	$ 429,730
	.A001	Not Given	09/29/81	10/09/81	NF/EBP/EPP/NB	07/01/80	09/30/82	48,270	478,000
	.M002	Not Given	01/04/82	01/18/82	NCBR	07/01/80	09/30/82	0	478,000
	.M003	Not Given	04/14/82	04/20/82	NCBR	07/01/80	09/30/82	0	478,000
	.M004	Not Given	08/30/83	08/23/82	EBP/EPP	07/01/80	06/30/83	0	478,000
	.M005	Not Given	09/20/82	09/27/82	NCBR/O 18	07/01/80	12/31/82	0	478,000
	.A006	AP0520051	01/03/83	01/10/83	NF/COF/EBP/EPP/NB	07/01/80	09/30/83	50,000	
	.A007	AP0520052	04/12/83	04/18/83	NF	07/01/80	09/30/83	50,000	578,000
	.A008	DB4000	08/09/83	08/12/83	NF	07/01/80	09/30/83	10,000	588,000
	.A009	DB4000	01/11/84	02/09/84	DEOB CO	07/01/80	09/30/83	(15,608)	572,392
MS	DE-FG97-83WM46655								
	.A000	DB40	08/22/83	08/26/83	NG/NFI	09/01/83	09/30/84	$ 25,000	$ 25,000
	.A001	DB40	09/27/83	10/13/83	NFI	09/01/83	09/30/84	245,000	270,000
	.A002	DB4030	04/02/84	04/09/84	NFI	09/01/83	09/30/84	404,980	674,980
	.M003	Not Given	09/14/84	09/19/84	EBP/EPP	09/01/83	09/30/85	0	674,980
	.A004	DB4030	09/27/84	09/28/84	NF/NB	09/01/83	09/30/85	92,000	766,980
	.A005	DB010310	12/20/84	12/21/84	NF/NB	09/01/83	09/30/85	73,799	840,779
	.A006	DB010310	02/25/85	02/26/85	NF/NB/SOW	09/01/83	09/30/85	950,665	1,791,444
	.M007	GAP	GAP	GAP	GAP	----	----	----	1,791,444
	.A008	DB010310	Not Signed	Not Signed	NF/EBP/EPP/NB/SOW	09/01/83	09/30/86	1,085,669	2,877,113
NM	DE-FG97-82WM46646								
	.A000	GAP	06/30/82	GAP	NG/NF/GAP	----	----	$ 60,000	$ 60,000
SC	DE-FG97-80ET46630								
	.A000	AP051515	04/21/80	04/28/80	NG/NF	04/21/80	10/30/80	$ 50,500	$ 50,500
	.A001	AP051515	06/19/80	Not Signed	NF/NB/SOW	04/21/80	10/30/80	250,000	300,500
	.M002	AP051515	08/27/80	Not Signed	EBP/EPP	04/21/80	09/30/81	0	300,500
	.A003	AP051515	05/21/82	Not Signed	DEOB CO	04/21/80	09/30/81	(51,811)	248,689
TX	DE-FG97-79ET46608								
	.A000	Not Given	05/18/79	06/14/79	NG/NF	01/01/79	12/31/79	$ 25,100	$ 25,100
	.M001	Not Given	01/18/80	02/02/80	NF/EBP/EPP/NB/SOW	01/01/80	12/31/80	50,000	75,100
	.M002	Not Given	12/29/80	01/15/81	EBP/EPP	01/01/79	12/30/81	0	75,100
	.M003	Not Given	03/31/81	Not Signed	NCBR	01/01/79	12/30/81	0	75,100
	.M004	Not Given	08/27/81	08/31/81	NCBR/EBP/EPP/O 19	01/01/79	09/30/82	0	75,100
	.A605	DB40	11/08/83	01/16/84	DEOB CO	01/01/79	09/30/82	(5,577)	69,523

ACTION CODES

ADJ	Adjusts obligated/unexpended funds
CO	Closes out grant
COF	Authorizes carry-over funds
DEOB CO	Deobligates unexpended funds and closes out grant
EBP	Extends budget period
EPP	Extends project period
GAP	NFAA missing from HQ's files
NB	Provides new budget
NBP	Establishes new budget period
NCBR	No cost revision of current budget
NF	Obligates new funds
NFI	Obligates new funds (increment of approved budget)
NG	Establishes new grant
O	Other (refer to list at end of report)
SOW	Provides new scope of work
TR	Travel requirement (usually requires written approval from DOE before travel to certain meetings)

GRANT BREAKDOWN REPORT (Continued)

STATE/TRIBE/ ORGANIZATION	GRANT AMENDMENT/ MODIFICATION	B&R NUMBER	DATE SIGNED BY DOE*	DATE SIGNED BY GRANTEE*	GRANT ACTIONS	BUDGET START	BUDGET END	OBLIGATION	CUMULATIVE OBLIGATION
TX	DE-FG97-83WM46653								
	.A000	AP052005	02/03/83	02/10/83	NG/NF	02/03/83	12/30/83	$ 212,240	$ 212,240
	.A001	DB40	05/23/83	10/14/83	NF/NB	02/03/83	12/30/83	3,000	215,240
	.M002	Not Given	09/01/83	10/12/83	O 20	02/03/83	12/30/83	0	215,240
	.M003	Not Given	12/14/83	01/16/84	EBP/EPP	02/03/83	02/29/84	0	215,240
	.M004	Not Given	02/24/84	03/06/84	NCBR/EBP/EPP	02/03/83	04/30/84	0	215,240
	.M005	Not Given	05/01/84	04/30/84	EBP/EPP	02/03/83	06/30/84	0	215,240
	.A006	DB400	06/29/84	07/03/84	NF/EBP/EPP/NB	02/03/83	07/31/84	84,600	299,840
	.A007	DB4030	07/20/84	07/24/84	NFI/EBP/EPP/NB/SOW	02/03/83	09/30/85	100,000	399,840
	.A008	DB4030	09/26/84	10/16/84	NFI	02/03/83	09/30/85	200,000	599,840
	.A009	DB010310	06/11/85	06/18/85	NFI	02/03/83	09/30/85	352,617	952,457
	.M010	GAP	GAP	GAP	EBP/EPP/GAP	---	---	---	952,457
UT	DE-FG97-79ET46614								
	.A000	Not Given	10/12/79	01/04/80	NG/NF	10/01/79	09/30/80	$ 50,000	$ 50,000
	DE-FG97-80ET46633								
	.M001	Not Given	03/26/81	Not Signed	EBP/EPP/O 21	10/01/79	12/31/81	0	50,000
	DE-FG97-80ET46614								
	M002	Not Given	04/06/81	Not Signed	O 22	10/01/79	12/31/81	0	50,000
	.A003	AP051515	09/25/81	09/28/81	NF/NB/SOW	10/01/79	12/30/81	148,000	198,000
	.M004	Not Given	01/01/82	01/28/82	EBP/EPP	10/01/79	09/30/82	0	198,000
	.A005	AP0520051	07/08/82	07/09/82	NF/NB	10/01/79	09/30/82	100,000	298,000
	.A006	APu520051	09/14/82	09/14/82	NF/EBP/EPP/NB/SOW	10/01/79	12/31/82	171,431	469,431
	.A007	AP052005	11/01/82	11/02/82	NF/COF/NB	10/01/79	12/31/82	38,701	508,132
UT	DE-FG97-83WM46657								
	.A000	DB40	05/31/83	06/14/83	NG/NF	06/01/83	08/31/83	$ 72,000	$ 72,000
	.A001	DB40	09/01/83	08/31/83	NFI/EBP/EPP/NB/SOW/O 23	06/01/83	09/30/84	25,000	97,000
	.A002	DB40	09/27/83	11/07/83	NFI	06/01/83	09/30/84	250,000	347,000
	.A003	DB4030	04/03/84	04/12/84	NFI	06/01/83	09/30/84	126,688	473,688
	.A004	DB4030	07/25/84	07/27/84	NFI/EBP/EPP/SOW	06/01/83	01/15/85	150,000	623,688
	.A005	DB4030	09/26/84	10/18/84	NFI/EBP/EPP	06/01/83	09/30/85	236,495	860,183
	.A006	DB010310	03/01/85	03/11/85	NFI/NB/SOW	06/01/83	09/30/85	798,350	1,658,533
	.A007	DB010310	09/12/85	09/20/85	NF/EBP/EPP/NB/SOW	06/01/83	03/31/86	11,544	1,670,077
WI	DE-FG97-81WM46639								
	.A000	GAP	12/01/80	GAP	NG/NF/GAP	---	---	$ 5,000	$ 5,000

ACTION CODES

ADJ - Adjusts obligated/unexpended funds
CO - Closes out grant
COF - Authorizes carry-over funds
DEOB CO - Deobligates unexpended funds and closes out grant
EBP - Extends budget period

EPP - Extends project period
GAP - NFAA missing from HQ's files
NB - Provides new budget
NBP - Establishes new budget period
NCBR - No cost revision of current budget
NF - Obligates new funds

NFI - Obligates new funds (increment of approved budget)
NG - Establishes new grant
O - Other (refer to list at end of report)
SOW - Provides new scope of work
TR - Travel requirement (usually requires written approval from DOE before travel to certain meetings)

GRANT BREAKDOWN REPORT (Continued)

STATE/TRIBE/ ORGANIZATION	GRANT AMENDMENT/ MODIFICATION	B&R NUMBER	DATE SIGNED BY DOE*	DATE SIGNED BY GRANTEE*	GRANT ACTIONS	BUDGET START	BUDGET END	OBLIGATION	CUMULATIVE OBLIGATION
AGI[4]	DE-FG97-81WM46641								
	.A000	AP051515	06/10/81	06/18/81	NG/NF	07/01/81	06/30/82	$ 34,784	$ 34,784
	.M001	Not Given	06/22/82	06/28/82	EBP/EPP	07/01/81	09/30/82	0	34,784
	.M002	Not Given	08/26/82	08/23/82	EBP/EPP	07/01/81	06/30/83	0	34,784
	.A003	DB4030	02/17/84	Not Signed	DEOB CO	07/01/81	06/30/83	(28,083)	6,701
ANS[5]	DE-FG97-79WM10013								
	.A000	Not Given	03/23/79	05/09/79	NG/NF	11/01/78	10/31/79	$ 20,000	$ 20,000
	.M001	Not Given	12/23/80	02/05/81	EBP/EPP	11/01/78	10/31/81	0	20,000
	.A003	AP051515	11/09/82	Not Signed	DEOB CO	11/01/78	10/31/81	(2,407)	17,593
ANS[5]	DE-FG97-82WM46647								
	.A000	AP051515	09/27/82	10/19/82	NG/NF	09/27/82	01/30/84	$ 98,519	$ 98,519
	.M001	Not Given	02/08/84	02/13/84	EBP/EPP	09/27/82	01/30/85	0	98,519
	.M002	Not Given	01/31/85	02/04/85	EBP/EPP	09/27/82	04/30/85	0	98,519
	.M003	Not Given	04/19/85	05/01/85	EBP/EPP	09/27/82	07/30/85	0	98,519
	.M004	Not Given	07/26/85	08/07/85	EBP/EPP	09/27/82	01/30/86	0	98,519
SSEB[6]	DE-FG97-82WM46648								
	.A000	AP0520051E	06/04/82	06/14/82	NG/NF	06/15/82	09/30/82	$ 43,773	$ 43,773
	.M001	Not Given	08/24/82	08/19/82	EBP/EPP	06/15/82	06/30/83	0	43,773
	.A002	AP0520051	09/20/82	09/24/82	NF/NB/SOW	06/15/82	06/30/83	16,273	60,046
	.A003	AP052005	11/03/82	11/08/82	NF	06/15/82	06/30/83	19,851	79,897
	.M004	Not Given	06/23/83	06/27/83	EBP/EPP	06/15/82	03/31/84	0	79,897
Univ. of AZ	DE-FG97-80ET46608								
	.A000	Not Given	11/21/79	Not Given	NG/NF	01/01/80	12/31/80	$ 10,000	$ 10,000
	DE-FG97-80ET46620								
	.M001	AP051515	04/17/81	Not Signed	DEOB CO/O 24	01/01/80	12/31/80	(1,326)	8,674
Univ. of AZ	DE-FG97-81ET46635								
	.A000	AP051515	01/19/81	01/14/81	NG/NF	01/01/81	12/31/81	$ 12,000	$ 12,000
Univ. of AZ	DE-FG97-82WM46644								
	.A000	AP051515	03/03/82	03/11/82	NG/NF	01/01/82	12/31/82	$ 15,000	$ 15,000
	.M001	AP052005	07/13/82	Not Signed	O 25	01/01/82	12/31/82	0	15,000

ACTION CODES

ADJ	- Adjusts obligated/unexpended funds
CO	- Closes out grant
COF	- Authorizes carry-over funds
DEOB-CO	- Deobligates unexpended funds and closes out grant
EBP	- Extends budget period
EPP	- Extends project period
GAP	- NFAA missing from HQ's files
NB	- Provides new budget
NBP	- Establishes new budget period
NCBR	- No cost revision of current budget
NF	- Obligates new funds
NFI	- Obligates new funds (increment of approved budget)
NG	- Establishes new grant
O	- Other (refer to list at end of report)
SOW	- Provides new scope of work
TR	- Travel requirement (usually requires written approval from DOE before travel to certain meetings)

GRANT BREAKDOWN REPORT (Continued)

STATE/TRIBE/ ORGANIZATION	GRANT AMENDMENT/ MODIFICATION	D&R NUMBER	DATE SIGNED BY DOE*	DATE SIGNED BY GRANTEE*	GRANT ACTIONS	BUDGET START	BUDGET END	OBLIGATION	CUMULATIVE OBLIGATION
Univ. of AZ	DE-FG97-83WM46654 .A000	AP0520051	02/08/83	02/28/83	NG/NF	02/08/83	02/07/84	$ 10,000	$ 10,000
Univ. of MN	DE-FG97-81ET46636 .A000	GAP	01/26/81	GAP	NG/NF/GAP	----	----	$ 177,100	$ 177,100
WIEB¹	DE-FG97-82WM46643								
	.A000	AP051515	03/01/82	03/08/82	NG/NF	03/01/82	09/30/82	$ 20,000	$ 20,000
	.M001	AP052005	07/13/82	07/20/82	O 26	03/01/82	09/30/82	0	20,000
	.M002	Not Given	09/20/82	09/15/82	EBP/EPP	03/01/82	06/30/83	0	20,000
	.A003	AP0520051	08/01/83	07/28/83	DEOB CO	03/01/82	06/30/83	(55)	19,945

09/18/85

PROJECT OFFICE: CPO

STATE/TRIBE/ ORGANIZATION	GRANT AMENDMENT/ MODIFICATION	D&R NUMBER	DATE SIGNED BY DOE*	DATE SIGNED BY GRANTEE*	GRANT ACTIONS	BUDGET START	BUDGET END	OBLIGATION	CUMULATIVE OBLIGATION
CT	DE-FG02-83NE44351								
	.A000	DB40	09/22/83	09/28/83	NG/NF	09/25/83	02/28/84	$ 35,200	$ 35,200
	.A001	DB4040	02/21/84	02/29/84	NF/EBP/EPP/NB/SOW	09/25/83	12/31/84	160,143	195,343
	.A002	DB020110	11/21/84	11/27/84	NF/COF/NBP/EPP/NB/SOW/TR	01/01/85	12/31/85	132,824	328,167
	.A003	DB020110	04/23/85	05/08/85	ADJ	01/01/85	12/31/85	(11,041)	317,126
GA	DE-FG02-83NE44345								
	.A000	DB40	07/12/83	07/28/83	NG/NF	07/15/83	02/28/84	$ 25,350	$ 25,350
	.A001	DB40	09/22/83	09/29/83	NFI/EBP/EPP/NB/SOW	07/15/83	09/30/84	49,650	75,000
	.A002	DB40	12/02/83	12/16/83	NFI	07/15/83	09/30/84	20,400	95,400
	.A003	DB40	01/04/84	01/23/84	NF/EBP/EPP/NB	07/15/83	12/31/84	17,040	112,440
	.A004	DB020110	12/14/84	12/21/84	NF/COF/NBP/EPP/NB/SOW/TR	01/01/85	12/31/85	140,061	252,501
	.A005	DB02110	04/24/85	05/11/85	ADJ	01/01/85	12/31/85	(4,570)	247,931
	.M006	DB02110	Not Signed	Not Signed	NCBR/NB	01/01/85	12/31/85	0	247,931
	.A007	DB02110	Not Signed	Not Signed	NF/COF/NBP/EPP/NB/O-	01/01/86	12/31/86	100,570	348,501

ACTION CODES

ADJ - Adjusts obligated/unexpended funds
CO - Closes out grant
COF - Authorizes carry over funds
DEOB CO - Deobligates unexpended funds and closes out grant
EBP - Extends budget period

EPP - Extends project period
GAP - NFAA missing from HQ's files
NB - Provides new budget
NBP - Establishes new budget period
NCBR - No cost revision of current budget
NF - Obligates new funds

NFI - Obligates new funds (increment of approved budget)
NG - Establishes new grant
O - Other (refer to list at end of report)
SOW - Provides new scope of work
TR - Travel requirement (usually requires written approval from DOE before travel to certain meetings)

GRANT BREAKDOWN REPORT (Continued)

STATE/TRIBE/ ORGANIZATION	GRANT AMENDMENT/ MODIFICATION	B&R NUMBER	DATE SIGNED BY DOE*	DATE SIGNED BY GRANTEE*	GRANT ACTIONS	BUDGET START	BUDGET END	OBLIGATION	CUMULATIVE OBLIGATION
ME	DE-FG97-81NE46640								
	.A000	AP051515	04/07/81	Not Given	NG/NF	04/01/81	09/30/81	$ 139,000	$ 139,000
	.A001	AP051515E	09/25/81	09/30/81	NFI/EBP	04/01/81	09/30/82	192,000	331,000
	.M002	Not Given	11/05/81	Not Given	O-27	04/01/81	09/30/82	0	331,000
	.M003	Not Given	12/15/81	12/21/81	NCBR/O-28	04/01/81	09/30/82	0	331,000
	.M004	Not Given	07/09/82	07/23/82	NCBR	04/01/81	09/30/83	0	331,000
	DE-FG02-81NE46640								
	.A005	DA303003	11/23/82	12/02/82	NFI/O-29	04/01/81	09/30/83	10,000	341,000
	.A006	AP0520100	01/31/83	02/15/83	NFI	04/01/81	09/30/83	30,000	371,000
	.A007	DB3040013	04/05/83	04/12/83	NFI	04/01/81	09/30/83	156,638	527,638
	.A008	DB40	07/11/83	07/18/83	NF/EBP/EPP/NB/SOW	04/01/81	02/28/84	15,000	542,638
	.A009	DB40	09/29/83	10/12/83	NF/NB/SOW	04/01/81	02/28/84	26,951	569,589
	.M010	Not Given	12/27/83	01/18/84	NCBR	04/01/81	02/28/84	0	569,589
	.A011	DB4040	02/15/84	02/29/84	NF/EBP/EPP/NB	04/01/81	12/31/84	26,848	596,437
	.A012	DB020110	12/21/84	01/04/85	NF/COF/NBP/EPP/NB/SOW/TR	01/01/85	12/31/85	157,403	753,840
	.A013	DB020110	04/09/85	07/02/85	ADJ	01/01/85	12/31/85	(88,245)	665,594
	.A014	DB020110	04/09/85	07/02/85	ADJ/NB	01/01/85	12/31/85	88,245	753,840
MD	DE-FG02-83NE44346								
	.A000	DB3040019	07/15/83	07/20/83	NG/NFI	07/15/83	03/01/84	$ 15,000	$ 15,000
	.A001	DB40	12/01/83	04/12/83	NFI	07/15/83	03/01/84	16,734	31,734
	.M002	Not Given	02/20/84	03/20/84	NCBR/EBP/EPP/SOW	07/15/83	12/31/84	0	31,734
	.M003	Not Given	12/28/84	01/09/85	NBP/EPP/TR	01/01/85	02/28/85	0	31,734
	.A004	DB020110	02/28/85	03/06/85	NF/EBP/EPP/NB	01/01/85	12/31/85	73,461	105,195
	.A005	DB020110	05/10/85	05/22/85	ADJ	01/01/85	12/31/85	(2,060)	103,135
MA	DE-FG02-83NE44352								
	.A000	DB40	09/20/83	09/22/83	NG/NF	09/25/83	02/28/84	$ 46,689	$ 46,689
	.A001	DB4040	02/21/84	02/28/84	NF/EBP/EPP/NB/SOW	09/25/83	12/31/84	122,721	169,410
	.M002	Not Given	06/29/84	07/06/84	NCBR/TR	09/25/83	12/31/84	0	169,410
	.M003	Not Given	09/13/84	09/18/84	NCBR	09/25/83	12/31/84	0	169,410
	.A004	DB020110	12/27/84	01/02/85	NF/COF/NBP/EPP/NB/SOW	01/01/85	12/31/85	240,001	409,411
	.A005	GAP	GAP	GAP	GAP	---	---	---	409,411

ACTION CODES

ADJ - Adjusts obligated/unexpended funds
CO - Closes out grant
COF - Authorizes carry-over funds
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EPP - Extends project period
GAP - NFAA missing from HQ's files
NB - Provides new budget
NBP - Establishes new budget period
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NF - Obligates new funds

NFI - Obligates new funds (increment of approved budget)
NG - Establishes new grant
O - Other (refer to list at end of report)
SOW - Provides new scope of work
TR - Travel requirement (usually requires written approval from DOE before travel to certain meetings)

GRANT BREAKDOWN REPORT (Continued)

STATE/TRIBE/ ORGANIZATION	GRANT AMENDMENT/ MODIFICATION	BBR NUMBER	DATE SIGNED BY DOE*	DATE SIGNED BY GRANTEE*	GRANT ACTIONS	BUDGET START	BUDGET END	OBLIGATION	CUMULATIVE OBLIGATION
MI	DE-FG97-82WM46649								
	.A000	APOS20051	07/19/82	08/13/82	NG/NF	07/19/82	06/30/83	$ 30,477	$ 30,477
	DE-FG02-82WM46649								
	.M001	Not Given	01/24/83	01/27/83	O-30	07/19/82	06/30/83	0	30,477
	.M002	Not Given	03/24/83	03/30/83	EBP/EPP	07/19/82	09/30/83	0	30,477
	.A003	Not Given	06/20/84	07/31/84	DEOB-CO	07/19/82	09/30/83	(27,579)	2,898
MI	DE-FG02-83NE44348								
	.A000	DB3040019	07/18/83	08/01/83	NG/NF	08/01/83	02/28/84	$ 25,000	$ 25,000
	.A001	DB40	09/22/83	09/30/83	NF/NB/SOW	08/01/83	02/28/84	54,120	79,120
	.A002	DB4040	02/16/84	03/09/84	NF/EBP/EPP/NB	08/01/83	12/31/84	195,011	274,131
	.A003	DB020110	12/31/84	Not Given	NF/COF/NBP/EPP/NB/TR	01/01/85	12/31/85	187,684	461,815
	.A004	DB020110	04/02/85	08/12/85	ADJ	01/01/85	12/31/85	(74,305)	387,510
	.A005	DB020110	07/19/85	08/12/85	ADJ	01/01/85	12/31/85	60,000	447,510
MN	DE-FG02-83NE44344								
	.A000	DB40	06/23/83	06/27/83	NG/NF	07/01/83	02/28/84	$ 25,000	$ 25,000
	.A001	DB40	09/29/83	10/10/83	NFI/NB/SOW	07/01/83	02/28/84	45,000	70,000
	.A002	DB40	12/02/83	12/21/83	NFI	07/01/83	02/28/84	102,500	172,500
	.M003	DB4040	02/28/84	03/16/84	EBP/EPP/TR	07/01/83	03/31/84	0	172,500
	.A004	DB4040	03/16/84	03/26/84	NF/EBP/EPP/NB	07/01/83	12/31/84	189,495	361,995
	.M005	Not Given	12/24/84	01/03/85	COF/NBP/EPP	01/01/85	02/28/85	0	361,995
	.A006	DB020110	02/28/85	03/15/85	NF/EBP/EPP/NB	01/01/85	12/31/85	189,816	551,811
	.A007	DB020110	04/03/85	04/09/85	ADJ	01/01/85	12/31/85	(1,224)	550,587
MN	DE-FG02-83NE44354								
	.A000	DB40	09/22/83	09/23/83	NG/NF	09/30/83	02/28/84	$ 32,390	$ 32,390
	.A001	DB40	02/08/84	02/13/84	NF/EBP/EPP/NB	09/30/83	12/31/84	57,493	89,883
	.M002	Not Given	03/08/34	03/13/84	TR	09/30/83	12/31/84	0	89,883
	.A003	DB020110	12/13/84	12/17/84	NF/COF/NBP/EPP/NB/SOW	01/01/85	12/31/85	188,933	278,816
	.A004	DB020110	03/15/85	03/22/85	ADJ	01/01/85	12/31/85	(14,278)	264,538

ACTION CODES

ADJ - Adjusts obligated/unexpended funds
CO - Closes out grant
COF - Authorizes carry-over funds
DEOB-CO - Deobligates unexpended funds and closes out grant
EBP - Extends budget period
EPP - Extends project period
GAP - NFAA missing from HQ's files
NB - Provides new budget
NBP - Establishes new budget period
NCBR - No cost revision of current budget
NF - Obligates new funds
NFI - Obligates new funds (increment of approved budget)
NG - Establishes new grant
O - Other (refer to list at end of report)
SOW - Provides new scope of work
TR - Travel requirement (usually requires written approval from DOE before travel to certain meetings)

GRANT BREAKDOWN REPORT (Continued)

STATE/TRIBE/ ORGANIZATION	GRANT AMENDMENT/ MODIFICATION	B&R NUMBER	DATE SIGNED BY DOE*	DATE SIGNED BY GRANTEE*	GRANT ACTIONS	BUDGET START	BUDGET END	OBLIGATION	CUMULATIVE OBLIGATION
NJ	DE-FG02-83NE44349								
	.A000	DB40	09/14/83	10/10/83	NG/NFI	09/15/83	02/28/84	$ 48,724	$ 48,724
	.A001	DB40	12/01/83	Not Given	NFI	09/15/83	02/28/84	16,785	65,509
	.M002	DB4040	02/28/84	03/19/84	EBP/EPP/TR	09/15/83	03/31/84	0	65,509
	.A003	DB4040	03/09/84	04/10/84	NF/EBP/EPP/NB/SOW	09/15/83	12/31/84	96,207	161,716
	.M004	DB4040	09/11/84	10/24/84	NCBR/SOW	09/15/83	12/31/84	0	161,716
	.M005	Not Given	12/24/84	01/10/85	COF/NBP/EPP	01/01/85	02/28/85	0	161,716
	.A006	DB020110	02/05/85	03/06/85	NF/EBP/EPP/NB/SOW	01/01/85	12/31/85	64,433	226,149
	.A007	DB020110	04/09/85	05/24/85	ADJ	01/01/85	12/31/85	(1,767)	224,382
NY	DE-FG02-84NE44507								
	.A000	DB40	11/04/83	11/21/83	NG/NFI	11/15/83	12/31/84	$ 100,000	$ 100,000
	.A001	DB40	12/01/83	12/12/83	NFI	11/15/83	12/31/84	100,000	200,000
	.M002	Not Given	02/03/84	02/16/84	NCBR	11/15/83	12/31/84	0	200,000
	.A003	Not Given	09/24/84	10/10/84	NF/NB/SOW/TR	11/15/83	12/31/84	46,450	246,450
	.M004	Not Given	12/20/84	12/31/84	COF/NBP/EPP	01/01/85	03/31/85	0	246,450
	.A005	DB020110	03/26/85	04/02/85	NF/COF/EBP/EPP/NB/O 31	01/01/85	12/31/85	196,678	443,128
NC	DE-FG02-83NE44350								
	.A000	DB40	09/14/83	09/20/83	NG/NF	09/15/83	02/28/84	$ 25,000	$ 25,000
	.A001	DB40	11/09/83	11/17/83	NFI/NB/SOW	09/15/83	02/28/84	65,000	90,000
	.A002	DB40	12/01/83	12/19/83	NFI	09/15/83	02/28/84	39,500	129,500
	.M003	DB4040	02/28/84	03/16/84	EBP/EPP/TR	09/15/83	03/31/84	0	129,500
	.A004	DB4040	03/07/84	03/16/84	NF/EBP/EPP/NB	09/15/83	12/31/84	47,055	176,555
	.A005	DB4040	06/29/84	07/16/84	NF/NB/SOW	09/15/83	12/31/84	120,991	297,546
	.M006	Not Given	12/27/84	01/08/85	COF/NBP/EPP	01/01/85	02/28/85	0	297,546
	.M007	Not Given	02/28/85	03/13/85	EBP/EPP	01/01/85	03/31/85	0	297,546
	.A008	DB020110	03/25/85	04/03/85	NF/EBP/EPP/NB/O 32	01/01/85	12/31/85	184,150	481,696
	.A009	DB020110	04/12/85	04/25/85	ADJ	01/01/85	12/31/85	(17,683)	464,013
RI	DE-FG02-83NE44353								
	.A000	DB40	09/23/83	09/28/83	NG/NF	09/30/83	12/31/84	$ 99,525	$ 99,525
	.M001	Not Given	12/28/84	01/07/85	COF/NBP/EPP/TR	01/01/85	02/28/85	0	99,525
	.A002	DB020110	02/07/85	02/13/85	NF/EBP/EPP/NB/SOW	01/01/85	12/31/85	132,486	232,011
	.A003	DB020110	04/23/85	06/07/85	ADJ	01/01/85	12/31/85	(24,478)	207,533
	.A004	DB020110	08/20/85	08/28/85	ADJ	01/01/85	12/31/85	10,198	217,731
	.A005	DB020110	Not Signed	Not Signed	NF/COF/NBP/EPP/NB/O	01/01/86	12/31/86	151,280	369,011

ACTION CODES

ADJ	Adjusts obligated/unexpended funds
CO	Closes out grant
COF	Authorizes carry over funds
DEOB-CO	Deobligates unexpended funds and closes out grant
EBP	Extends budget period
EPP	Extends project period
GAP	NFAA missing from HQ's files
NB	Provides new budget
NBP	Establishes new budget period
NCBR	No cost revision of current budget
NF	Obligates new funds
NFI	Obligates new funds (increment of approved budget)
NG	Establishes new grant
O	Other (refer to list at end of report)
SOW	Provides new scope of work
TR	Travel requirement (usually requires written approval from DOE before travel to certain meetings)

GRANT BREAKDOWN REPORT (Continued)

STATE/TRIBE/ ORGANIZATION	GRANT AMENDMENT/ MODIFICATION	B&R NUMBER	DATE SIGNED BY DOE*	DATE SIGNED BY GRANTEE*	GRANT ACTIONS	BUDGET START	BUDGET END	OBLIGATION	CUMULATIVE OBLIGATION
SC	DE-FG02-83NE44343								
	.A000	DB40	06/15/83	06/28/83	NG/NF	07/01/83	02/28/84	$ 25,000	$ 25,000
	.A001	DB40	09/22/83	09/26/83	NFI/NB/SOW	07/01/83	02/28/84	50,867	75,867
	.A002	DB40	12/02/83	12/13/83	NFI	07/01/83	02/28/84	80,000	155,867
	.A003	DB4040	02/24/84	02/28/84	NF/EBP/EPP/NB/TR	07/01/83	12/31/84	95,819	251,686
	.A004	DB020110	12/27/84	01/02/85	NF/COF/NBP/EPP/NB	01/01/85	12/31/85	159,811	411,497
	.A005	DB02110	08/28/85	09/18/85	ADJ	01/01/85	12/31/85	(10,016)	401,481
VT	DE-FG97-81WM46642								
	.A000	AP051515	08/17/81	09/14/81	NG/NF	08/17/81	09/30/82	$ 53,000	$ 53,000
	.M001	Not Given	02/25/82	03/15/82	EBP/EPP	08/17/81	10/31/83	0	53,000
	DE-FG02-81WM46642								
	.M002	Not Given	01/24/83	03/04/83	0 33	08/17/81	10/31/83	0	53,000
	.A003	DB40	06/29/83	07/13/83	NF/EBP/EPP/NB/SOW	08/17/81	02/28/84	10,000	63,000
	.A004	DB40	01/16/84	01/26/84	NF/EBP/EPP/NB	08/17/81	12/31/84	42,462	105,462
	.M005	DB40	05/20/84	05/31/84	NCBR/SOW/TR	08/17/81	12/31/84	0	105,462
	.M006	DB40	09/24/84	09/28/84	NCBR	08/17/81	12/31/84	0	105,462
	.A007	DB020110	11/21/84	11/28/84	NF/COF/NBP/EPP/NB	01/01/85	12/31/85	60,788	166,250
	.A008	DB020110	04/09/85	04/22/85	ADJ	01/01/85	12/31/85	5,930	172,180
	.A009	DB020110	Not Signed	Not Signed	NF/COF/NBP/EPP/NB/O	01/01/86	12/31/86	78,700	250,880
VA	DE-FG02-84NE44508								
	.A000	DB4040	07/31/84	08/02/84	NG/NF/TR	08/01/84	12/31/84	$ 41,130	$ 41,130
	.M001	Not Given	12/20/84	02/20/85	NBP/EPP	01/01/85	02/28/85	0	41,130
	.M002	Not Given	02/13/85	02/22/85	EBP/EPP	01/01/85	04/30/85	0	41,130
	.M003	Not Given	04/08/85	05/17/85	COF/EBP/EPP	01/01/85	12/31/85	0	41,130

ACTION CODES

ADJ - Adjusts obligated/unexpended funds
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EPP - Extends project period
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NF - Obligates new funds
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GRANT BREAKDOWN REPORT (Continued)

STATE/TRIBE/ ORGANIZATION	GRANT AMENDMENT/ MODIFICATION	B&R NUMBER	DATE SIGNED BY DOE*	DATE SIGNED BY GRANTEE*	GRANT ACTIONS	BUDGET START	BUDGET END	OBLIGATION	CUMULATIVE OBLIGATION
WI	DE-FG02-83NE44347								
	.A000	DB3040019	07/11/83	07/13/83	NG/NF	07/15/83	02/28/84	$ 25,000	$ 25,000
	.A001	DB40	09/29/83	10/07/83	NFI/NB/SOW	07/15/83	02/28/84	54,272	79,272
	.A002	DB40	12/02/83	12/07/83	NFI	07/15/83	02/28/84	63,300	142,572
	.M003	DB40	01/05/84	01/11/84	NCBR	07/15/83	02/28/84	0	142,572
	.A004	DB4040	02/24/84	02/28/84	NF/EBP/EPP/NB/TR	07/15/83	12/31/84	199,093	341,665
	.M005	Not Given	12/24/84	01/02/85	COF/NBP/EPP	01/01/85	02/28/85	0	341,665
	.M006	Not Given	02/22/85	03/01/85	EBP/EPP	01/01/85	03/31/85	0	341,665
	.A007	DB020110	3/18/85	03/26/85	NF/COF/EBP/EPP	01/01/85	12/31/85	247,854	589,519
	.A008	DB020110	04/25/85	05/22/85	ADJ	01/01/85	12/31/85	(14,237)	575,282
	.A009	DB020110	08/22/85	09/05/85	ADJ/NB/O-34	01/01/85	12/31/85	12,174	587,456

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* Dates shown are taken from DOE Notices of Financial Assistance Award.

[1] Nez Perce Tribe
[2] Confederated Tribes of the Umatilla Indian Reservation
[3] Yakima Indian Nation
[4] American Geological Institute
[5] American Nuclear Society
[6] Southern States Energy Board
[7] Western Interstate Energy Board

ACTION CODES

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NFI - Obligates new funds (increment of approved budget)
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GRANT BREAKDOWN REPORT (Continued)

DESCRIPTION OF ACTION CODES

0-1	Terminates performance under the subject grant.
0-2	Adds Special Conditions 8, 9, 10, and 11 addressing modification negotiations, defense waste activities, MRS activities, and grant administrator rules, respectively.
0-3	Provides General Conditions 1 through 10 and Special Conditions 1 and 2. The Special Conditions address payment provisions and authorization to continue grant activities.
0-4	Adds Special Conditions 3 through 8 addressing equipment approval, contract reviews, DSHS contract information, review and comment on defense waste, monitoring, analysis, and studies, and DSHS Environmental Sampling Techniques.
0-5	Adds Special Condition 12 to the grant regarding the submission of a Federal Cash Transaction Report to DOE 15 working days after the end of each quarter.
0-6	Revises General Condition 3 from Letter of Credit payments to Treasury Check.
0-7	Provides General Conditions 1 through 10 and Special Conditions 1 and 2. The Special Conditions address payment provisions and authorization to continue grant activities.
0-8	Adds Special Conditions 3 through 5 addressing contractual information, equipment, and defense waste related activities.
0-9	Provides General Conditions 1 through 10 and Special Conditions 1 and 2. The Special Conditions address payment provisions and authorization to continue grant activities.
0-10	Adds Special Conditions 3 through 9 addressing space costs, Management Summary Reports, contractual funds, videotapes, equipment approval, defense waste related activities, and planning for impact studies.
0-11	Approves equipment purchase and hiring of a project director.
0-12	Provides General Conditions 1 through 10 and Special Conditions 1 and 2. The Special Conditions address payment provisions and authorization to continue grant activities.
0-13	Adds Special Conditions 3 through 7 addressing indirect costs, equipment, contractual information, defense waste related activities, and planning for impact studies.
0-14	Modifies Condition 9 (procurement review and approval procedures) of .A004 and adds Conditions 10 (patent, data, and copyright clause applications) and 11 (inclusion of bimonthly contractor progress reports in grantee's quarterly progress reports).
0-15	Revises Special Condition 12 of .A008 (level of contractor support).
0-16	Provides General Conditions 1 through 10 and Special Conditions 1 and 2. The Special Conditions address payment provisions and authorization to continue grant activities.
0-17	Adds Special Conditions 3 through 7 addressing personnel, equipment approval, contractor overheads, indirect costs, and defense waste related activities.
0-18	Authorizes carry-over funding but the amount authorized is not given. Also revises the budget and project periods' end dates from 06/30/83 to 12/31/82.
0-19	Method of payment is changed from Reimbursement to Advance.
0-20	Recipient name changed from Texas Energy & Natural Resources Advisory Council to the State of Texas, Office of the Governor.
0-21	Changes grant number from DE-FG97-79ET46614 to DE-FG97-80ET46633.
0-22	Changes grant number from DE-FG97-80ET46633 to DE-FG57-80ET46614.
0-23	Transfers government property from grant number DE-FG97-80ET46614 to grant number DE-FG97-83WM46657.
0-24	Changes grant number from DE-FG97-80ET46608 to DE-FG97-80ET46620.
0-25	Changes B&R Number AP051515 to AP052005.
0-26	Changes B&R Number AP051515 to AP052005.
0-27	Corrects project period end date.
0-28	Revises Cost Management Report requirement.
0-29	Transfers grant from SRPO to CPO. Changes grant number from DE-FG97-81NE46640 to DE-FG02-81NE46640.
0-30	Transfers grant from SRPO to CPO. Changes grant number from DE-FG97-82WM46649 to DE-FG02-82WM46649.
0-31	Gives conditions regarding the total approved budget including: 1) A portion of the total funds obligated ($86,500 of $196,678) is to be used for a subgrant with the New York State Department of Environmental Conservation. These funds may not be used for other purposes (including other subgrants) without prior written approval of the DOE Contracting Officer; and 2) Total allowable costs for geologic field work (including subgrants and salaries of project personnel from the New York State Geologic Survey) are limited to a ceiling of $50,000.
0-32	Costs associated with grantee's proposed consultation and cooperation consultant contract are not allowable unless North Carolina is identified as having candidate sites in the draft Area Recommendation Report.
0-33	Transfers grant from SRPO to CPO. Changes grant number from DE-FG97-81WM46642 to DE-FG02-81WM46642.
0-34	Costs associated with grantee's proposed consultation and cooperation consultant contract are not allowable unless Wisconsin is identified as having candidate sites in the draft Area Recommendation Report.
WI 0-	Costs of field work for data collection are unallowable for the grantee, any subdivision of the grantee, or any subcontractor or Subgrantee.

J. I. PALMER (MISSISSIPPI)

Question 8: (a) In-situ testing of salt is scheduled to take only 8 months, on the notion that research in West Germany, Kansas, and New Mexico will translate to the sites under study. Mississippi contends that site-specific, not generic, data is essential.

(b) DOE allows only 27 months for NRC licensing, whereas the Act requires at least 36 months.

(c) Mapping, seismic studies, geochemical testing of groundwater, etc. ..., should be done prior to sinking of the exploratory shaft -- rather than concurrently as DOE now proposes.

Answer: (a) The comment made by Mississippi that site-specific data is required is in agreement with the position of the DOE. A comprehensive in-situ test plan is to be executed at the site selected for characterization. The 8-month period pertains only to initial site characterization data gathering and testing activities which support the preparation of the Environmental Impact Statement. These activities will consist of collecting data during the excavation of the underground workings following exploratory-shaft sinking. The data collected will include information such as site geologic and geotechnical data, and initial geomechanical information on the stability of the excavation. Other site specific in-situ data will be obtained from the exploratory shaft sinking operations and surface-based methods of characterization. These site-specific data will be supplemented by the existing information from off-site tests performed at Avery Island Mine, New Iberia, Lousisiana; Asse Salt Mine, Federal Republic of Germany; Salt Vault Tests at Lyons, Kansas; and by other off-site testing to be performed over the next two or more years. The off-site information will

J. I. PALMER (MISSISSIPPI)

Question 8: (con't.)

provide input for the preliminary evaluation of the numerical codes, test methods, and procedures.

Tests started during the first 8 months will continue beyond that time period in order to obtain data for the site performance confirmation and to procure data for the design of the repository. The performance confirmation test data, as well as the data collected from all of the site characterization activities, will be used for the validation of numerical models to predict the long-term performance of the site. If the site is selected for the first repository, the underground testing and data collection will continue during the license application review process and beyond. Therefore, the total testing is much more than 8 months. We consider, however, that the 8 month period will provide adequate site specific data to support the development of an EIS.

(b) The Nuclear Waste Policy Act of 1982 specifies that the NRC shall issue a final decision either approving or disapproving the Department's application for construction authorization "not later than . . . the expiration of 3 years after the date of the submission of such application". This leaves open the possibility of completing this step in less than 3 years.

J. I. PALMER (MISSISSIPPI)

Question 8: (con't.)

The Department is taking steps in several areas to expedite the licensing process. These steps include the following:

1. An automated licensing information system will be set up to ensure that all documentation that is needed during the licensing process will be available, and that it will be quickly accessible,

2. The Department's quality assurance plans and activities will be subjected to NRC's scrutiny prior to initiating the licensing process to ensure that our quality assurance practices are in full compliance with NRC's requirements,

3. The Department is interacting on an extensive basis with the NRC during the development of the Site Characterization Plans. This interaction will continue throughout the site characterization process,

4. The Department plans to coordinate development of the repository Environmental Impact Statement with the NRC by involving the NRC in the EIS preparation as a cooperating agency. This will facilitate adoption of the EIS by the NRC, and

J. I. PALMER (MISSISSIPPI)

Question 8: (con't.)

5. The Department is committed to an open program, where data and information pertaining to the program and its activities are readily available. We are actively involving the States and affected Indian tribes in our program activities, including meetings with the NRC.

These steps will greatly facilitate NRC's participation in the repository program, and should prepare the NRC to act on the license application within the period of time noted in the Mission Plan.

(c) DOE has been conducting a geoscience program of surface and subsurface exploration which includes mapping, seismic profiling, hydrologic testing and ground-water composition analyses. Much of the information gathered in these activities is summarized and referenced in the Environmental Assessments. This program has been aimed at determining the suitability of the candidate sites for nomination and recommendation for detailed site characterization. These activities will continue before, during and after exploratory shaft construction, at a pace determined by the program's schedule and needs.

J. I. PALMER (MISSISSIPPI)

Question 8: (con't.)

The impression that these geoscience activities only take place concurrently with exploratory shaft (ES) sinking may arise from Figure 2-1 in the Mission Plan. This figure shows an item labeled "start non-ES site characterization", coincidental with the start of shaft construction in tuff and basalt. In Figure 2-1, the term "site characterization" is used to refer to those activities continuing after the start of shaft construction, since the Nuclear Waste Policy Act links the beginning of "site characterization" to shaft sinking. However, the geoscience studies mentioned above also take place prior to shaft sinking, as shown by Figures 2-2 and 3-5 in the Mission Plan.

J. I. PALMER (MISSISSIPPI)

Question 9: DOE should decide now whether to incorporate the exploratory shafts into the final design or to backfill them completely, so as not to be in violation of 10 CFR; part 60.3(b).

Answer: DOE currently plans to utilize the exploratory shafts in repository construction to ensure Phase I completion in time to meet the Act-mandated January 1998 date for repository operations. As part of DOE's repository design process, DOE will continue to evaluate the most cost-effective use of the exploratory shafts in the operating repository. Because the exploratory shafts will be designed and constructed in full compliance with the NWPA, the exploratory shafts and associated underground facilities will be designed and constructed to meet the requirements of the site characterization program with the appropriate level of safety and quality assurance considerations. This approach is consistent with 10 CFR 60.3 regulations. During a recent meeting between DOE and the Nuclear Regulatory Commission (NRC) on exploratory shaft design, construction, and testing, NRC indicated that they had no objection to this approach at this time.

J. I. PALMER (MISSISSIPPI)

Question 10: Not enough planning and information is provided with respect to transportation.

Answer: The discussion of transportation issues was substantially expanded in the July 1985 Mission Plan. The purpose of the Mission Plan is to provide an overview of program goals and to outline current program policies and plans. In-depth discussions of transportation issues can be found in the Draft Transportation Business Plan (DOE/RW-0026), August 1985 and the Draft Transportation Institutional Plan (DOE/RW-0031), September 1985.

J. I. PALMER (MISSISSIPPI)

Question 11:	DOE has not addressed how salt "creep" might impede later retrieval of wastes, as required by 10 CFR part 60.111(b)(1).
Answer:	The purpose of the Mission Plan is not to design facilities but rather to lay the conceptual groundwork for the program. In this sense, the issue of waste retrieval in salt is adequately addressed in the Mission Plan. Issue 4.6 in Chapter 1, Part II, implicitly covers the retrieval issue in a generic sense. Section 5.7.2, Part II, specifically mentions potential retrieval difficulties in salt. This issue is also considered in the Environmental Assessments, and will be fully addressed in forthcoming Site Characterization Plans. Also, as part of the continuing interaction between DOE and NRC, DOE presented a proposed position paper on retrievability to NRC in July 1985 to assure proper interpretation in complying with 10 CFR Part 60. The position paper is now being finalized based on NRC review comments, and will be used to guide the preparation of the salt SCP so that it properly addresses geotechnical effects, such as salt creep, on retrieval capability.

J. I. PALMER (MISSISSIPPI)

Question 12: The issue of future human intrusion is not adequately addressed.

Answer: The issue of future human intrusion is a complex and important one. A detailed discussion of this issue was beyond the scope of the Mission Plan. The Department will address this issue in the performance assessments and when determining the suitability of each site characterized with respect to the siting guidelines. Additional information on possible future human intrusion is also presented in the draft Environmental Assessments.

J. I. PALMER (MISSISSIPPI)

Question 13: The notion that the program is being funded by nuclear utility fees, rather than taxpayers, is an "insult to millions of taxpayers whose hard-earned income is being extracted from them, without their consent..."

Answer: DOE recognizes that fees paid into the Nuclear Waste Fund by utilities originate from utility ratepayers.

J. I. PALMER (MISSISSIPPI)

Question 14: DOE should provide cost estimates of (a) the authorized plan, (b) the improved performance system, and (c) both (a) and (b) with 5 and 10 year delays for each.

Answer: Cost estimates for the above referenced cases are provided in Chapter 10 of the Mission Plan. The Department also, on an annual basis, prepares and submits to Congress a Fee Adequacy Report relating to the Nuclear Waste Fund. In addition, the Department will be submitting to Congress in early 1986, the Monitored Retrievable Storage (MRS) facility proposal. As part of the proposal, detailed cost estimates attendant to the construction, operation, and decommissioning of an MRS facility will be presented. Should Congress approve the construction of an MRS facility, costs associated with it will be considered in future Fee Adequacy Reports.

J. I. PALMER (MISSISSIPPI)

Question 15: DOE has not paid enough attention to, nor funded adequately, studies on socioeconomic impacts. DOE ignored Mississippi's comments and requests for funding on socioeconomic impacts.

Answer: The request by the State of Mississippi for funds to conduct an independent Socioeconomic Analysis and develop an extensive data base was deemed to be inappropriate for the current phase of repository development. Funding was approved, however, for Mississippi to review socioeconomic material in DOE documents. In addition, a meeting was held between the Mississippi Energy and Transportation Board and DOE as recently as November 8, 1985 to discuss current and future socioeconomic funding needs. Discussions are continuing between Mississippi and DOE to investigate appropriate levels and methods of funding the activities now being proposed by Mississippi in the area of Socioeconomic Analysis.

J. I. PALMER (MISSISSIPPI)

Question 16: DOE has not resolved the issue of liability for nuclear waste accidents. States should be assured of absolute, unlimited liability for all waste-related accidents.

Answer: DOE does not have the authority to resolve the issue of liability for nuclear waste accidents. Currently, liability for accidents arising out of activities conducted under the Nuclear Waste Policy Act is covered by the Price-Anderson Act. This legislation, which provides a comprehensive system of financial protection in the event of a nuclear waste accident, is due to expire in 1987. Bills to extend the Price-Anderson Act are currently before Congress. While DOE supports extension of the Act, it is Congress' responsibility to determine how States liability concerns may be resolved.

STEVE FRISHMAN -- TEXAS

Question 1: (a) There is no adjustment of the 1998 waste-acceptance date to compensate for the continued slippage of early milestones.

(b) When does site characterization end? This is unclear.

Answer: (a) Early slippage in the repository schedule in part as a result of increased State, Tribal, and public involvement in the program has produced significantly improved program documents and enabled DOE to make adjustments, where necessary, in the schedule without compromising the 1998 goal of the Nuclear Waste Policy Act. In addition, DOE is developing contingency plans that can be implemented if schedule delays are encountered in the future.

(b) The description related to site characterization, and specifically the reference schedule associated with site characterization that is found in section 3.1.7.1.2 of the Mission Plan, provides specificity as to the Department's plans in this area.

STEVE FRISHMAN -- TEXAS

Question 2: Texas disagrees with DOE's timing of the preliminary determination of site suitability, especially considering DOE's own guidelines for site recommendation.

Answer: The Nuclear Waste Policy Act (the Act) does not specify the time at which a preliminary determination of suitability must be made. The Department believes that, in the absence of precise specification, that timing decision is left to the discretion of the Secretary. In this regard, the decision of when to make the preliminary determination is a management or programmatic decision and is one related to the DOE management of its resources and the overall repository program.

The purpose of the preliminary determination is to add assurance that the three sites selected for characterization, an effort that will involve large sums of money, have a high probability of being found acceptable. The Act does not specify any finding to accompany the recommendation of sites to the President for characterization. A preliminary determination that sites recommended to the President are suitable for development as repositories on a preliminary basis would provide a basis for the recommendation that would otherwise be missing. Consequently, the Department plans to make the preliminary determination at the time it recommends to the President the sites for characterization.

STEVE FRISHMAN -- TEXAS

Question 3: C&C: DOE should resolve its disagreements with the states over the meaning and practical application of the word "consultation."

Answer: The Department has engaged in a continuing dialogue regarding the definition and application of "Consultation" as it applies to the interactions of States and Indian Tribes and the Office of Civilian Radioactive Waste Management. No definition of the term has been found that can be universally recognized as forming the basis for the range of interactions that the program, of necessity, must engage in. Rather, through the ongoing dialogue and continuing case by case interactions, operative definitions will evolve.

STEVE FRISHMAN - TEXAS

Question 4: The entire site selection process should be started over so as to screen the entire nation for a set of credible sites.

Answer: To begin another national screening process for the first repository is inconsistent with the requirements of the Nuclear Waste Policy Act, which specified that the potentially acceptable sites for the first repository be identified shortly after passage of the Act. The requirement for the identification of potentially acceptable sites was derived from Congress' recognition that DOE had been conducting screening studies for several years.

STEVE FRISHMAN -- TEXAS

Question 5:	The MRS should be reviewed by Congress in the context of the entire program.
Answer:	The Department, in early 1986, will be submitting a proposal to Congress regarding Monitored Retrievable Storage. This report will recommend that Congress authorize the construction of a Monitored Retrievable Storage Facility that will be a component of an integrated Radioactive Waste Management System. In that context, an MRS facility will be evaluated as a component of the overall program.

ROBERT LOUX -- NEVADA

Question 1: Nevada does not agree with DOE's timing of the preliminary determination of site suitability. Nevada feels that the Secretary must make the preliminary determination that three sites are suitable, based on firm, objective, scientific considerations.

Answer: The Nuclear Waste Policy Act does not specify the time at which a preliminary determination of suitability must be made. The Department believes that, in the absence of precise specification, that timing decision is left to the discretion of the Secretary. In this regard, the decision of when to make the preliminary determination is a management or programmatic decision and is one related to the DOE management of its resources and the overall repository program.

The purpose of the preliminary determination is to add assurance that the three sites selected for characterization, an effort that will involve large sums of money, have a high probability of being found acceptable. The Act does not specify any finding to accompany the recommendation of sites to the President for characterization. A preliminary determination that sites recommended to the President are suitable for development as repositories on a preliminary basis would provide a basis for the recommendation that would otherwise be missing. Consequently, the Department plans to make the preliminary determination at the time it recommends to the President the sites for characterization.

ROBERT LOUX -- NEVADA

Question 2: Section 114(a)(1)(D) requires that the Secretary's consideration be given only to sites at which characterization is complete, including a final EIS.

Answer: Section 114(a)(1)(D) of the Act requires the preparation of a final environmental impact statement . . . , including an analysis of the consideration given by the Secretary to not less than 3 candidate sites . . . with respect to which site characterization is completed . . . ."

As discussed in the Mission Plan, the Secretary will make a preliminary determination of suitability upon recommendation of the candidate sites for detailed site characterization in order to ensure the reasonableness of the alternate sites considered. This will add assurance that the three sites selected for characterization will have a high potential for being found suitable for development as a repository and add confidence that the sites recommended constitute reasonable alternatives in accordance with NEPA.

If, after site characterization is underway, some anomaly was discovered which clearly indicated the site was unsuitable, the Secretary could declare the site characterization activities completed at that site. The site could still meet the requirements, under NEPA, as an alternate and therefore be acceptable for consideration in the EIS.

ROBERT LOUX -- NEVADA

Question 3: See criticisms raised in a letter from Robert Loux to Charles Head, Acting Director of OCRWM, dated 7/6/84 (attached to Nevada testimony).

Answer: Mr. Loux's letter of July 6, 1984 provides the State of Nevada's comments on the Department's Draft Mission Plan for the Civilian Radioactive Waste Management Program. The Department carefully considered those comments, as well as approximately 2,400 other comments, in preparing the Mission Plan for the Civilian Radioactive Waste Management Program (DOE/RW-0005), June 1985.

Volume II of the Mission Plan contains detailed responses addressing all issues of concern. Attached are pages 337-339 from the index found in Volume II. Mr. Loux's letter is No. 48. Each of the issues raised in his letter can be cross-referenced to the section where they were addressed.

LETTER	COMMENT	RESPONSE REFERENCE
44	13	9.2.1
44	14	2.2.5
44	15	2.2.4
44	16	5.7.2
44	17	9.2
44	18	6.2.1
44	19	6.1
44	20	5.1.2.4
44	21	5.1.2.3
44	22	5.4.2
44	23	5.4.1
44	24	5.4.1
44	25	5.7.1
44	26	15.1
44	27	2.3.2
44	28	14.6
45	1	2.3.8
45	2	2.3.2
45	3	6.11
45	4	1.2
45	5	2.6.1
45	6	6.2.1
46	1	7.3
47	1	2.3.1
47	1	2.3.8
47	2	7.1
47	3	3.3.2
47	3	3.3.3
47	4	5.1.4.2
47	5	9.2.1
47	6	9.4.3
47	7	5.6
47	7	5.6
47	8	7.1
47	9	7.4
47	10	4.7
47	11	10.4
47	12	9.2.1
47	12	9.2.1
47	13	2.3.3
47	14	2.3.8
47	15	2.3.8
47	16	5.2.1
47	17	9.2.2
47	18	2.3.8
47	19	2.2.4
47	20	2.3.6
47	21	2.3.6
47	22	2.3.2

LETTER	COMMENT	RESPONSE REFERENCE
47	23	2.6.9
47	24	2.6.9
47	25	9.1
47	25	9.4.1
47	26	2.3.8
47	27	2.3.8
47	28	2.6.9
48	1	1.1
48	1	3.3.1
48	2	4.1
48	2	5.1.2.4
48	3	10.2
48	3	2.2.2.3
48	4	1.4
48	4	1.4
48	5	1.2
48	6	10.1
48	6	11.0
48	7	3.3.2
48	8	3.3.2
48	9	4.7
48	10	15.2
48	11	10.1
48	12	2.2.3
48	13	2.2.2.2
48	14	2.2.2.3
48	15	2.6.9
48	16	8.1
48	17	2.2.5
48	18	5.6
48	19	5.1.2.5
48	19	5.1.3.1
48	20	4.2
48	21	5.1.4.3
48	22	5.1.2.1
48	23	5.7.1
48	23	5.7.2
48	23	5.7.2
48	24	4.5
48	24	5.1.2.5
48	25	8.1
48	26	4.5
48	26	5.1.2.5
48	27	5.8.5
48	28	8.5
48	29	5.5.5
48	29	5.8.5
48	29	5.8.5
48	30	2.3.1

LETTER	COMMENT	RESPONSE REFERENCE
48	30	2.2.1
48	31	5.1.2.4
48	32	4.4
48	33	4.3
48	34	5.1.2.5
48	35	5.7
48	36	5.2
48	37	4.1
48	37	4.1
48	38	4.5
48	39	4.5
48	40	5.1.4.1
48	40	9.2.1
48	41	4.3
48	42	10.1
48	43	10.2
48	44	9.2.1
48	44	9.5
48	45	9.2.2
48	46	9.2.3
48	47	2.4
48	48	9.2.1
48	49	9.2.2
48	50	9.6
48	51	9.2.1
48	52	9.2.1
48	53	9.2.1
48	53	11.0
48	54	12.0
48	55	12.0
48	56	12.0
48	57	12.0
48	57	12.0
48	58	14.4
48	58	14.4
48	59	14.5
48	60	5.8.5
48	61	5.6
48	62	6.4.4
48	63	6.2.1
48	64	6.7.1
48	65	9.2.4
48	66	6.2.1
48	67	2.1
48	68	2.1
48	69	5.1.3.1
48	70	5.1.2.5
48	71	4.1
48	72	6.2.4
48	73	6.6
48	74	6.7.4
48	75	6.4.4
48	76	6.4.4
48	77	6.9
48	78	5.1.3.1
48	79	5.1.3.2.1
48	80	5.1.3.2.2
48	81	4.1
48	82	5.8.5
48	83	5.4.2
48	84	5.4.3
48	85	13.0
48	85	13.0
48	86	5.1.4.1
48	86	5.7.3
48	87	5.7.2
48	88	5.7.2
48	89	2.3.9
48	90	2.5.1
48	91	2.2.3
48	92	2.3.5
48	93	2.5.2
48	93	2.5.2
48	94	2.2.4
48	95	5.1.1
48	96	9.1
48	96	9.2.4
48	96	9.3.3
48	96	9.4.3
48	97	5.5.1
48	98	2.2.8
48	99	6.11
48	100	6.2.4
48	101	6.2.4
48	102	6.2.4
48	102	6.7.4
48	103	6.2.4
48	104	6.2.4
48	105	6.2.4
48	106	6.2.4
48	107	EDITORIAL
48	108	6.4.4
48	109	6.4.4
48	110	6.3
48	111	6.10
48	112	6.10
48	113	5.1.3.1
48	114	5.1.3.1

LETTER	COMMENT	RESPONSE REFERENCE
48	115	5.1.3.2.2
48	116	5.1.3.2.3
48	117	5.1.3.3
48	118	5.1.3.4
48	119	15.1.2
48	120	2.6.9
48	122	2.6.1
49	1	9.1
49	1	9.2.2
49	1	9.2.3
49	1	9.2.4
49	1	9.3.3
49	1	9.3.3
49	1	9.4.2
49	1	9.4.3
49	1	9.4.4
49	1	9.5
49	2	2.6.9
49	3	2.3.6
49	4	2.6.1
49	5	2.3.6
49	6	3.4
49	7	5.5.3
49	8	5.1.1
49	9	5.1.2.4
49	10	4.4
49	11	2.3.6
49	11	2.3.8
49	12	5.1.3.3
49	13	10.5
49	14	10.1
49	15	9.2.2
49	15	9.2.3
49	15	9.4.3
49	15	9.4.4
49	15	9.5
49	16	12.0
49	17	5.8.2
49	17	9.2.2
49	18	5.8.2
49	19	2.3.6
49	19	9.2.1
49	20	2.3.1
49	21	2.3.7
49	22	10.2
49	23	2.3.3
49	24	2.3.3
49	25	2.2.1
49	25	2.3.6
49	26	2.2.1
49	26	2.2.6
49	27	2.6.9
49	26	2.2.1
49	28	9.2.1
49	29	2.3.6
50	1	9.1
50	2	1.4
50	3	1.4
50	4	9.3.3
50	5	5.1.2.3
50	6	2.6.1
50	7	5.1.2.5
50	8	2.2.3
50	9	5.1.4.3
50	10	9.2.4
50	11	9.2.1
50	12	9.2.2
51	1	3.3.1
51	2	2.2.1
51	3	2.1
51	3	2.3.1
51	4	5.1.3.2.3
51	5	9.1
51	6	5.1.2.5
51	6	5.1.2.5
51	7	14.1
51	8	4.1
52	1	10.1
52	1	10.1
52	2	5.1.4.1
52	3	3.3.2
52	4	11.0
52	4	13.0
52	4	13.0
52	4	13.0
52	5	14.2
52	5	14.3
52	6	1.1
52	7	4.2
52	7	EDITORIAL
52	8	3.3.1
52	9	3.3.2
52	10	10.1
52	11	2.2.1
52	12	3.3.1
52	12	3.3.2
52	13	3.2.1
52	14	3.3.3

CURTIS ESCHELS

STATE OF WASHINGTON

Question 1:	DOE is preoccupied with meeting the deadlines and not conscious enough of safety concerns.
Answer:	DOE believes that Congress intended that the Department exercise its best efforts in meeting the 1998 deadline for repository operation. Nonetheless, DOE is firmly committed to developing a waste management system that is safe and technically sound. To that end, DOE is developing testing and quality assurance programs that will ensure that the repository is safely sited and operated. In addition, as we have consistently noted, we will not compromise public health, safety, or the environment in the interests of schedule.

CURTIS ESCHELS

STATE OF WASHINGTON

Question 2: Preliminary Determination of Site Suitability: Determination should come after characterization.

Answer: The Nuclear Waste Policy Act does not specify the time at which a preliminary determination of suitability must be made. The Department believes that, in the absence of precise specification, that timing decision is left to the discretion of the Secretary. In this regard, the decision of when to make the preliminary determination is a management or programmatic decision and is one related to the DOE management of its resources and the overall repository program.

The purpose of the preliminary determination is to add assurance that the three sites selected for characterization, an effort that will involve large sums of money, have a high probability of being found acceptable. The Act does not specify any finding to accompany the recommendation of sites to the President for characterization. A preliminary determination that sites recommended to the President are suitable for development as repositories on a preliminary basis would provide a basis for the recommendation that would otherwise be missing. Consequently, the Department plans to make the preliminary determination at the time it recommends to the President the sites for characterization.

CURTIS ESCHELS

STATE OF WASHINGTON

Question 3: Defense waste: More information is needed to address the comingling issue, especially for Hanford site. Why will some of these wastes remain at the Hanford site? What are the environmental impacts of leaving these wastes in their present condition?

Answer: Defense waste issues are covered in "An Evaluation of Commercial Repository Capacity for the Disposal of Defense High-Level Waste" (DOE/DP-0020). The Assistant Secretary for Defense Programs is preparing an environmental impact statement that will address, along with other issues, the environmental impacts of leaving defense wastes in their present condition.

CURTIS ESCHELS

STATE OF WASHINGTON

Question 4: MRS: Congress must address the issue of how an "integrated MRS" would affect the operation of a possible repository at Hanford.

Answer: The MRS proposal includes consideration of how an "integrated MRS" would affect the total waste system operation for the first repository at any site currently under consideration. In that context, the operation of a repository at the Hanford site will be addressed.

CURTIS ESCHELS

STATE OF WASHINGTON

Question 5: Transportation: DOE should provide a schedule for resolving transportation issues.

Answer: A preliminary schedule for the resolution of transportation issues is provided in the Draft Transportation Institutional Plan (DOE/RW-0031), September 1985.

CURTIS ESCHELS

STATE OF WASHINGTON

Question 6: Schedules: More realistic schedules by DOE would provide certainty and safety.

Answer: The January 1998 date for initiation of operations of the First Geologic Repository is considered to be the most important milestone required by the Act. The Department has repeatedly stated its commitment to meeting this date and the Mission Plan lays out in comprehensive manner the strategy, objectives, and schedules required to successfully meet this principal objective. At various times, we have not met several near-term milestones considering that the additional time spent developing baseline documents (e.g., Siting Guideline) in the interests of achieving a higher standard of quality would be time well spent and would assure a higher probability of achieving the operation of the repository by January 1998.

CURTIS ESCHELS

STATE OF WASHINGTON

Question 7:	Congressional review of the Mission Plan: 30-day review period is too short for such a lengthy technical document.
Answer:	The Nuclear Waste Policy Act, in Section 301(b)(3), requires that the Mission Plan lay before Congress for a 30 day period prior to its application by the Secretary in the management of the program.

KEVIN GOVER -- NEZ PERCE TRIBE

Question 1: The Nez Perce tribe disagrees with DOE's timing of the preliminary determination of site suitability -- "DOE maintains that the nomination for characterization and the preliminary determination of suitability are one and the same, thereby destroying the significance of the preliminary determination required by section 114(f)" and "DOE's inconsistency in interpreting section 114(f) has great potential for disrupting the progress of the program." DOE's interpretation calls into question NRC's concurrence decision on the siting guidelines.

Answer: The Nuclear Waste Policy Act does not specify the time at which a preliminary determination of suitability must be made. The Department believes that, in the absence of precise specification, that timing decision is left to the discretion of the Secretary. In this regard, the decision of when to make the preliminary determination is a management or programmatic decision and is one related to the DOE management of its resources and the overall repository program.

The purpose of the preliminary determination is to add assurance that the three sites selected for characterization, an effort that will involve large sums of money, have a high probability of being found acceptable. The Act does not specify any finding to accompany the recommendation of sites to the President for characterization. A preliminary determination that sites recommended to the President are suitable for development as repositories on a preliminary basis would provide a basis for the recommendation that would otherwise be missing.

KEVIN GOVER -- NEZ PERCE TRIBE

Question 1: (con't.)

Consequently, the Department plans to make the preliminary determination at the time it recommends to the President the sites for characterization.

With regard to whether DOE's interpretation as to the timing of the preliminary determination calls into question NRC's concurrence decision on the Siting Guidelines, the NRC, by letter dated October 24, 1985 indicated that " . . . the Commission has agreed that DOE's modified position does not require any change in NRC's prior concurrence in DOE's siting guidelines. A public statement is currently being prepared to restate the Commission's concurrence."

KEVIN GOVER -- NEZ PERCE TRIBE

Question 2: DOE's unreasonably optimistic schedule lends itself to a deterioration of public confidence as delays are later made necessary, or as deadlines are met without adequate studies.

Answer: Public understanding and confidence in the program will be engendered through the Department's public interaction program and through the demonstrated technical excellence of its effort. The Department has chosen, at the early stages of the program, to seek extensive public input on major program documents to ensure that the highest quality document is developed. In some cases we have chosen, even when not required by the Act, to issue drafts of documents for public comment. The Mission Plan and the Environmental Assessments are examples of this policy. We believe that the solid foundation that is being established will enable the program to move forward with minimal delays that otherwise might occur and have considerably improved the probability of program success.

We have, in addition, repeatedly stated that the protection of public health, safety, and the environment is of paramount importance. We will not compromise those factors in favor of schedule.

KEVIN GOVER — NEZ PERCE TRIBE

Question 3: The time allotted for public comments is insufficient to allow for meaningful input.

Answer: The Department believes that an adequate review and comment period is necessary for successful public participation in the review and preparation of program documents. For this reason, despite the tightness of its repository schedule, DOE extended to 90 days the comment periods on the draft Environmental Assessments and the draft Mission Plan. The duration of review and comment periods will depend on the length and the complexity of the documents.

KEVIN GOVER -- NEZ PERCE TRIBE

Question 4: The Mission Plan fails to identify specific issues in relation to Indian Tribal jurisdictions and loss of rights (including fishing rights).

Answer: The scope of the Mission Plan did not extend to the identification of site specific issues such as the potential impact that a repository may have on Indian Tribe fishing rights. Such issues will be addressed in detail in the site specific Environmental Assessments.

DEAN TOUSLEY -- YAKIMA INDIAN NATION

Question 1:	DOE's preliminary determination of site suitability must come at or near the end of site characterization to have any significance.
Answer:	The Nuclear Waste Policy Act does not specify the time at which a preliminary determination of suitability must be made. The Department believes that, in the absence of precise specification, that timing decision is left to the discretion of the Secretary. In this regard, the decision of when to make the preliminary determination is a management or programmatic decision and is one related to the DOE management of its resources and the overall repository program. The purpose of the preliminary determination is to add assurance that the three sites selected for characterization, an effort that will involve large sums of money, have a high probability of being found acceptable. The Act does not specify any finding to accompany the recommendation of sites to the President for characterization. A preliminary determination that sites recommended to the President are suitable for development as repositories on a preliminary basis would provide a basis for the recommendation that would otherwise be missing. Consequently, the Department plans to make the preliminary determination at the time it recommends to the President the sites for characterization.

DEAN TOUSLEY -- YAKIMA INDIAN NATION

Question 2:	A contraction of the schedule to meet the 1998 deadline is damaging to the program from both a technical and an institutional perspective.
Answer:	DOE believes that it can meet program objectives of developing a safe and technically sound repository within the timeframe of the 1998 goal of the Nuclear Waste Policy Act. In addition, DOE is developing contingency plans that can be implemented in the event future schedule delays are encountered.

DEAN TOUSLEY -- YAKIMA INDIAN NATION

Question 3: The Mission Plan does not explain why 60 percent of the defense wastes are deemed "not readily retrievable."

Answer: Defense waste issues are covered in "An Evaluation of Commercial Repository Capacity for the Disposal of Defense High-Level Waste" (DOE/DP-0020). The issue of defense waste retrievability will be further discussed in a Environmental Impact Statement being prepared by the Department's Assistant Secretary for Defense Programs regarding the management of wastes at the Hanford Reservation.

DEAN TOUSLEY -- YAKIMA INDIAN NATION

Question 4:	The Mission Plan does not discuss the impacts of comingling of defense wastes, especially with respect to repository size, loading schedule, design, and transportation systems.
Answer:	While the Mission Plan does discuss the impacts of co-location of defense high-level wastes, it also refers to "An Evaluation of Commercial Repository Capacity for the Disposal of Defense High-Level Waste" (DOE/DP-0020) for a more complete discussion of the effects of defense high-level waste on the design and operations of a commercial repository and defense high-level waste transportation systems. With regard to the repository loading schedule, discussions are currently underway with the Office of Defense Programs to develop a waste-acceptance schedule that integrates the two major waste streams.

DEAN TOUSLEY -- YAKIMA INDIAN NATION

Question 5: Site selection process (first repository):

(a) the federal site ownership took precedence over more important geologic considerations.

(b) the selection of Hanford goes against assessments made by NAS and DOE's own technical overview committee for the Hanford site.

(c) the first-repository selection process should be started over from ground zero.

Answer: (a) Although site ownership was a factor in the site selection process, it did not take precedence over geologic considerations. Regardless of prior ownership, all sites must meet the criteria contained in the siting guidelines and, in addition, be licensable by NRC.

(b) The National Academy of Sciences (NAS) issued a report in 1983 entitled "A Study of the Isolation System for Geologic Disposal of Radioactive Wastes." The issues raised therein were fully considered by the Department during the preparation of the draft Environmental Assessment for the Hanford site. The NAS in their report did not recommend that the Hanford site not be considered further in the program's site selection process.

With regard to assessments made by the "Technical Overview Committee," DOE, for the Basalt Waste Isolation Project, does have a Technical Review Group (TRG). The TRG has not, however,

Question 5: (con't.)

Answer: made assessments or recommendations that suggest that the Hanford site should not be considered further in the program's site selection process.

(c) To begin another national screening process for the first repository is inconsistent with the requirements of the Nuclear Waste Policy Act, which specified that the potentially acceptable sites for the first repository be identified shortly after passage of the Act. The requirement for the identification of potentially acceptable sites was derived from Congress' recognition that DOE had been conducting screening studies for several years.

DEAN TOUSLEY -- YAKIMA INDIAN NATION

Question 6: The MRS will have merit only if it allows a relaxation of the site selection schedule if necessary for technical reasons.

Answer: The MRS, as an integral component of the waste management system, will permit most of the pre-emplacement waste preparation activities to be developed and implemented away from the geologic repository. In this manner, the repository can focus on the technical issues related to geologic emplacement and provide greater assurance of meeting the schedules in the NWPA.

PATRICK SPURGIN -- UTAH

Question 1: "The Mission Plan does not identify primary scientific and technical information related to the designation of a potentially acceptable site . . . . The potential result of this approach is that unsuitable or least-suitable sites will be characterized or potentially even recommended for a repository."

Answer: The scope of the Mission Plan did not extend to the level of detail suggested. The Mission Plan did, however, in Section 3.1.5.1, summarize the siting process leading to the identification of potentially acceptable sites. Part II of Volume I contains an exhaustive discussion of the information needs related to the siting and construction of a repository.

PATRICK SPURGIN -- UTAH

Question 2: Utah's Davis Canyon is an unacceptable site because of its proximity to a geological fault and the Indian Creek Syncline. This information was known to DOE prior to identification of Davis Canyon as a potentially acceptable site, yet it survived the screening process in spite of this.

Answer: All of the following elements were considered in evaluating the Davis Canyon site with respect to siting guidelines. It should be noted that the effects of faults, not their presence, qualify or disqualify a site. These effects were considered in evaluating the site. Based on our evaluation, the faults did not disqualify the site.

1. Fault R is interpreted on seismic section approximately 2 km north of the geologic repository operations area. It cuts the Mississippian Leadville Limestone, more than 2,000 feet below repository depth, but not the intervening younger Upper Paleozoic strata or the salt section. It is not active, and therefore, has no effect on the site.

2. Shay Graben faults are the nearest surficial faults. They may be found to be active by further study. If active, they would affect estimates of strong ground motion at the site, but analyses indicate that the motion

PATRICK SPURGIN -- UTAH

Question 2: (con't.)

(acceleration estimated in the EA as 0.25 gravity) would not be greater than that which can be accommodated by available engineering technology.

PATRICK SPURGIN -- UTAH

Question 3: Testing schedules are being compressed and subordinated to overall deadlines. This is a sure way to increase the likelihood of collapse of the entire program.

Answer: The Department recognizes that its reference schedule is an aggressive one that contains milestones that will require our best effort to achieve. Testing schedules, however, have not been compressed to ensure other deadlines are met. Site characterization is a critical part of the program and DOE believes it has proposed sufficient testing durations for each site under consideration. These durations are based on our current understanding of regulatory requirements. As plans for site characterization are developed in more detail, we will further evaluate its site characterization schedule and make changes, if appropriate.

PATRICK SPURGIN -- UTAH

Question 4: The Mission Plan is deficient in its discussions in the following areas: (a) C&C agreement negotiations, (b) treatment of proprietary information and (c) conflicts between DOE and other agency's mandates.

Answer:

a. The Department recognizes the importance of consultation and cooperation (C&C) with States and affected Indian Tribes. A section of Chapter 4 in Part I of Volume I of the Mission Plan is devoted to C&C process and includes a section on the C&C negotiations. The section is intended to present an overview of the Department's goals and plans with respect to C&C negotiations. More detailed information is beyond the scope of the Mission Plan.

b. The subject of proprietary information was not treated in the Mission Plan. The use of proprietary information will be considered as appropriate on a case-by-case basis.

c. This topic was not discussed in the Mission Plan. The draft Mission Plan was made available to other Federal agencies for review and comment. No conflicts between the Department's mandate and those of other agencies have been identified.

PATRICK SPURGIN -- UTAH

Question 5: The state costs of litigation should be borne by DOE, consistent with Section 119 of the Act.

Answer: Section 119 of the Nuclear Waste Policy Act does not authorize financial assistance for litigation. It discusses the jurisdiction of the United States Courts of Appeals in the program. Sections 116, 117, and 118, which discuss participation of and financial assistance to States and Indian Tribes, do not include litigation as a fundable activity. In addition, Office of Management and Budget Circular A-87 prohibits the use of grant funds for litigation.

UNITED STATES
NUCLEAR REGULATORY COMMISSION
WASHINGTON, D.C. 20555

October 24, 1985

The Honorable Pete V. Domenici, Chairman
Subcommittee on Energy Research and Development
Committee on Energy and Natural Resources
United States Senate
Washington, DC 20510

Dear Mr. Chairman:

As requested in your letter of September 27, 1985, the Commission is forwarding written responses to three questions relating to the September 12, 1985, hearing concerning the Department of Energy's Mission Plan for the Civilian Radioactive Waste Program.

The Commission appreciated the opportunity to testify before you and trusts that these answers are responsive to your request.

Sincerely,

Carlton Kammerer

Carlton Kammerer, Director
Office of Congressional

Affairs

Enclosure:
As stated

cc: Sen. Wendell Ford
w/o enclosure

QUESTION 1. WOULD YOU HAVE EXPERIENCE TO DATE THAT WOULD INDICATE THAT DOE IS NOT MAKING AN EFFORT TO INTERACT WITH NRC IN A TIMELY MANNER?

ANSWER.

NO. WE BELIEVE DOE IS MAKING AN EFFORT TO INTERACT WITH NRC IN A TIMELY MANNER. WE ARE COMMITTED TO PROVIDING GUIDANCE TO DOE ON POTENTIAL HEARING ISSUES ON A SCHEDULE WHICH, ABSENT UNRESOLVED SAFETY ISSUES, WILL NOT DELAY DOE'S PROGRAM. TO DO THIS CONSULTATIONS MUST BE HELD SUFFICIENTLY EARLY IN DOE'S PLANNING PROCESS SO THAT NRC COMMENTS ARE INCLUDED IN DOE PLANS AND PROGRAM BEFORE DOE DECISIONS AND COMMITMENTS ARE MADE. DOE MUST IDENTIFY THE REQUIRED LEAD TIMES FOR SUCH CONSULTATIONS BASED UPON DETAILED INFORMATION, THAT ONLY DOE HAS, ABOUT ITS INTERNAL SCHEDULES.

QUESTION 2. (A) COULD YOU GIVE THE COMMITTEE SOME EXAMPLES OF ACTIONS THAT WOULD ENABLE NRC TO COMPLETE ITS LICENSING ACTIVITIES IN LESS THAN THE REQUIRED 36 MONTHS? DOES THE MISSION PLAN INCLUDE ANY OF THESE ACTIVITIES?

ANSWER.

THE NRC CONTINUES TO BELIEVE THAT THE THREE YEAR PERIOD PROVIDED BY THE NWPA IS A VERY OPTIMISTIC ESTIMATE FOR THE TIME REQUIRED TO REACH A LICENSING DECISION ON REPOSITORY CONSTRUCTION. THE ADEQUACY OF A 36-MONTH REVIEW PERIOD IS DEPENDENT ON THE SUBMITTAL OF A COMPLETE AND HIGH-QUALITY APPLICATION FOR A REPOSITORY LICENSE BY DOE. MEETING THE 36-MONTH REVIEW SCHEDULE IS POSSIBLE IF DOE COMPLETES, IN A TIMELY AND EXEMPLARY FASHION, THE FOLLOWING KEY ACTIONS: 1) LAY OUT A SYSTEMATIC SET OF MILESTONES REQUIRING CONSULTATION WITH NRC STAFF ON SITE CHARACTERIZATION ISSUES; (2) DEVELOP AN INFORMATION RETRIEVAL SYSTEM TO ALLOW EASY ACCESS TO DOCUMENTS WHICH SUPPORT THE LICENSE APPLICATION; (3) IMPLEMENT AN EFFECTIVE QUALITY ASSURANCE PROGRAM AT AN EARLY STAGE; (4) ADOPT A CONSERVATIVE APPROACH IN THE TREATMENT OF UNCERTAINTIES IN GEOTECHNICAL INVESTIGATIONS; (5) ESTABLISH PRELIMINARY DESIGN PARAMETERS AND ANTICIPATED PERFORMANCE GOALS FOR THE REPOSITORY AT AN EARLY DATE; AND (6) ADDRESS STATE AND INDIAN TRIBE CONCERNS AT AN EARLY STAGE, AND (7) EFFECTIVELY ADDRESS CONTENTIONS IN THE NRC HEARING. THIS LAST POINT IS AN IMPORTANT ONE. THE HEARING HAS THE GREATEST POTENTIAL TO ADD TO THE TIME NECESSARY TO REACH A LICENSING DECISION.

QUESTION 2. (CONTINUED) - 2 -

THE MISSION PLAN DOES NOT IDENTIFY ANY ACTIVITIES THAT COULD REDUCE THE LICENSING TIME TO LESS THAN 36-MONTHS AND ONLY PARTIALLY ADDRESSES THE NEED FOR THE ABOVE ACTIONS. IN A RECENT LETTER TO NRC STAFF (SEE ATTACHED) DOE ADDRESSED ACTIONS 1, 2, 3, AND 6. ACTIONS 4 AND 5 WILL BE SUBJECT TO ONGOING DISCUSSIONS CONCERNING DOE'S DETAILED SITE CHARACTERIZATION PLANS. WE ARE ENCOURAGING DOE TO ADDRESS THESE ACTIONS AS COMPLETELY AS POSSIBLE IN FUTURE UPDATES TO THE MISSION PLAN IN ORDER TO MEET THE 36-MONTH SCHEDULE.

QUESTION 2. (B) WHAT KIND OF CIRCUMSTANCES COULD CAUSE THE LICENSING PROCESS TO EXCEED 36 MONTHS? TO WHAT EXTENT DOES DOE OR NRC HAVE CONTROL OVER THESE CIRCUMSTANCES?

ANSWER.

THE LICENSING PROCESS COULD TAKE LONGER THAN 36 MONTHS AS A RESULT OF CIRCUMSTANCES SUCH AS THE FOLLOWING: (1) DOE SUBMITS AN INCOMPLETE LICENSE APPLICATION; (2) DOE HAS NOT COLLECTED DATA UNDER AN ADEQUATE QUALITY ASSURANCE PROGRAM PROVIDING THE DOCUMENTATION NEEDED TO DETERMINE THAT THE DATA IS OF ADEQUATE QUALITY; (3) DOE DOES NOT HAVE AN ADEQUATE INFORMATION RETRIEVAL SYSTEM TO SUPPORT THE LICENSING REVIEW, AND VERY IMPORTANTLY, TO SUPPORT THE DISCOVERY PROCESS; OR (4) THE DOE LICENSE APPLICATION DOES NOT ADEQUATELY ANTICIPATE AND ADDRESS POTENTIAL LICENSING ISSUES THAT HAVE BEEN RAISED.

TO AVOID EXTENDING THE 36-MONTH LICENSE REVIEW PERIOD, DOE MUST TAKE THE ACTIONS OUTLINED IN RESPONSE TO PART A OF THIS QUESTION.

ATTACHMENT: QUES. 2B

Department of Energy
Washington, D.C. 20585

SEP 3 1985

Mr. Robert E. Browning
Director
Division of Waste Management
Mail Stop 623-SS
Nuclear Regulatory Commission
Washington, D.C. 20555

Dear Mr. Browning:

As you know, the Nuclear Waste Policy Act of 1982 (Act) mandates that the Department begin to accept waste for disposal by January 31, 1998. The Department is firmly committed to meeting this date and has structured its program accordingly.

An important element of the overall planning is to put into place a process whereby the Nuclear Regulatory Commission (NRC), working in concert with the Department, receives the information it needs to meet the schedules mandated by the Act. Over the past few months, we have been working closely with you and your staff to more clearly define these information needs. As a result, it is our expectation that a number of steps will be put into place by the Office of Civilian Radioactive Waste Management (OCRWM) to keep the Commission fully informed, during the prelicensing period, of the Department's activities and programs leading to the submission of a License Application (LA) for a geologic repository. Further, this program for rapid and complete transfer of information will continue throughout the LA process. Specifically, the OCRWM's Office of Geologic Repositories (OGR) will continue and/or put into place the following interactions with the Commission and other parties:

1. Prelicensing Consultations

   The OGR will continue to meet regularly with the NRC staff in a free and open exchange to present its plans and program for site characterization, repository design, Environmental Impact Statement (EIS) and LA development, and data collection and interpretation. These meetings will be arranged and scheduled so that the NRC staff will have ample opportunity to review the material prior to the meetings, and scheduled sufficiently early in the process, so that the staff's advice can be considered and incorporated into the activity.

Recently, the OGR and NRC staffs met to develop a schedule for joint meetings on the repository program. The meetings encompassed a broad range of topics, from those with management orientation to topics strictly technical in content. In all, 30 meetings were identified between June and December 1985. Later this fall, we expect to meet again with the NRC staff to identify additional topics that would be scheduled next calendar year. In particular, the OGR will meet with the NRC staff in the next three to six months to describe specific activities planned and milestones from now through submittal of the LA. This will provide a detailed and systematic basis for determining and agreeing upon what are appropriate points for consultation between the two agencies.

2. Licensing Information System

For the past several months the OCRWM has had under development a computer based licensing information system. This system will be designed to capture virtually the entire span of activities which relate to the repository program and the licensing process. We have had two meetings on this system with the NRC staff and believe we understand your position on the critical elements of such a system. Basically, we plan to put into place a system which will provide you and others with on-line full text access to the extent possible, for retrieval of program documents. This includes correspondence, internal memos, reports, issue tracking and other appropriate records. We will continue to work with your staff in developing the system. It is our belief that this system will not only provide your staff with current and complete records of the program but also serve as a vehicle to support the licensing process. In particular, we believe the system that we plan to adopt will ensure rapid turnaround and complete recovery of appropriate program documents during the discovery process.

3. Quality Assurance Plans and Activities

We have developed a quality assurance program for both the OCRWM's Headquarters organization and the Project Offices. Substantial progress has been made in implementing these programs. We met with the NRC staff in November 1984, to provide a briefing on the status of the quality assurance programs at Headquarters and in each project. In December 1984, representatives from NRC's Division of Waste

Management and Office of Inspection and Enforcement visited each of DOE's three first-repository projects and received a briefing on each project's quality assurance program. In addition, NRC personnel attended DOE Headquarters' audits of the Tuff and Basalt projects during March and May 1985, and the Salt project audit in July 1985.

In turn, DOE Headquarters and each of the projects have been briefed by NRC on the lessons learned from nuclear power plant quality assurance experience as set forth in NUREG-1055, "Improving Quality and the Assurance of Quality in the Design and Construction of Nuclear Power Plants."

As you know, a final quality assurance plan has been issued by the OGR. In addition, quality assurance plans have also been issued by the Nevada Nuclear Waste Storage Investigations project (NNWSI) and the Basalt Waste Isolation Project (BWIP). The Salt Repository Project Office (SRPO) has issued a draft quality assurance plan; following incorporation of OGR comments a final plan will be issued. NRC has been provided with copies of the HQ plan and also all project plans. OGR and the projects are now developing procedures to implement these plans and to have a fully qualified program in place prior to submittal of the SCPs. We will request NRC to audit our program so that we might demonstrate compliance with the QA requirements.

4. Environmental Impact Statement

The Nuclear Waste Policy Act requires that the Department's Environmental Impact Statement (EIS), used in selection of the repository site, be adopted to the extent practicable by the Commission in connection with the issuance of a construction authorization and license for the repository. The OGR is presently developing a conceptual plan for the preparation of the EIS. We will discuss this plan with you before it is finalized. Further, we expect to invite NRC to participate, as a cooperating Agency, in the preparation of the EIS and to consult with the staff as the EIS is being developed. We hope that the NRC will agree to become a cooperating agency in order to faciliate the development of an EIS that can be adopted by NRC. We expect that our initial meeting with the staff will be scheduled within the next few months.

5. States, Affected Indian Tribes, and Outside Parties

The OCRWM is committed to an open program where data and information pertaining to the sites is readily available. In this regard, we expect to continue our efforts of involving the States and affected Indian Tribes in our program activities including meetings with the Nuclear Regulatory Commission such as described in item 1 above. Further, it is our plan that the States and affected Indian Tribes will have an opportunity, if they so desire, to access our licensing information system. In all meetings with the NRC staff, we will provide review materials pertaining to the meetings in a timely manner as agreed to in the DOE/NRC Management meeting of May 30, 1985. In regard to outside parties, the OGR plans to address and to the extent possible, resolve concerns, both technical and institutional, that we are able to identify, prior to issuance of the LA.

These steps, along with others to be identified in future discussions with you, will greatly facilitate the Commission's participation and understanding of the repository program during the next six years prior to submittal of a Licensing Application. Accordingly, at the time of the Department's submittal of the License Application, we anticipate that the Commission will be fully prepared to act upon the Application in a manner consistent with considerations of the public health and safety, and hopefully, as discussed in our mission plan.

I am fully committed to continue to work with your office and would welcome the opportunity to discuss any of the above items with you, as well as any additional activities which might help enhance the process.

Sincerely,

William J. Purcell
Associate Director
for Geologic Repositories
Office of Civilian Radioactive
Waste Management

QUESTION 3. (A) ISN'T THE TIMING OF THE "PRELIMINARY DETERMINATION" A MATTER WHICH, IN THE FINAL ANALYSIS, IS A DECISION THAT DOE MUST MAKE, AND NOT THE COMMISSION?

ANSWER.

DOE IS REQUIRED TO MAKE ITS "PRELIMINARY DETERMINATION" IN ACCORDANCE WITH THE NUCLEAR WASTE POLICY ACT AND THE TIMING OF THE "PRELIMINARY DETERMINATION" IS SUBJECT TO JUDICIAL AND CONGRESSIONAL REVIEW. IN THIS SENSE THE TIMING IS NOT SOLELY WITHIN DOE'S AUTHORITY. NRC DOES NOT REGARD THE MATTER AS REQUIRING ANY NRC ACTION AT THIS TIME EXCEPT TO CLARIFY THE CONTINUED VALIDITY OF ITS CONCURRENCE IN THE DOE SITING GUIDELINES.

COMMISSIONER ASSELSTINE ADDS THE FOLLOWING:

COMMISSIONER ASSELSTINE BELIEVES THAT THE TIMING OF THE PRELIMINARY DETERMINATION IS A MATTER FOR NRC AS WELL AS DOE DECISION FOR THREE REASONS. FIRST, AS THE COMMISSION'S RESPONSE RECOGNIZES, THE NRC HAS INDEPENDENT ENVIRONMENTAL REVIEW RESPONSIBILITIES UNDER NEPA. THOSE RESPONSIBILITIES INCLUDE AN NRC DETERMINATION THAT ADEQUATE CONSIDERATION HAS BEEN GIVEN TO ALTERNATE SITES. SECOND, THE COMMISSION HAS HEALTH AND SAFETY RESPONSIBILITIES TO ASSURE THE ADEQUACY OF DOE'S LICENSE APPLICATION. THIS HEALTH AND SAFETY REVIEW CAN EXAMINE ALTERNATIVES TO THE SPECIFIC PROVISIONS OF THE APPLICATION, INCLUDING ALTERNATIVE SITES. THIRD, THE COMMISSION HAS THE RESPONSIBILITY UNDER THE NUCLEAR WASTE POLICY ACT TO REVIEW AND CONCUR IN DOE'S SITE SELECTION PROCESS. EACH OF THESE AREAS OF NRC ACTIVITY CAN BE AFFECTED BY THE TIMING OF THE PRELIMINARY DETERMINATION OF SITE SUITABILITY AND THE RELATED QUESTION OF HOW MANY SITES MUST BE SUITABLE FOR REPOSITORY DEVELOPMENT AFTER THE COMPLETION OF SITE CHARACTERIZATION.

QUESTION 3. (b) If the timing of the preliminary determination is a matter within DOE's and not NRC's legal authority, what basis did the Commission have to impose that as a "condition" of its concurrence in DOE's guidelines?

ANSWER.

The Agreement is not a "condition of concurrence" in the usual sense in which that term is used. The Commission did specify several such conditions; the agreement was not one of them. It was merely characterized as "relevant" to the Commission's decision. DOE's change in position does not, by the terms of the NRC's concurrence decision, revoke the concurrence.

Commissioner Asselstine adds the following:

Commissioner Asselstine believes that the NRC-DOE agreement on the timing of the preliminary determination was a condition of the Commission's concurrence in the DOE site selection guidelines. Including the agreement in a separate part of the Commission's concurrence decision from the several concurrence conditions which the Commission had previously issued for public comment does not change the fact that a majority of the Commission at the time believed the agreement to be an important element in resolving valid State and public concerns regarding the adequacy of the DOE site selection guidelines.

QUESTION 3. (C) IF THE MATTER IS WITHIN DOE'S LEGAL DISCRETION TO DECIDE, AND WITH THE CONFUSION THAT HAS BEEN GENERATED BY THIS ISSUE, WOULDN'T IT BE APPROPRIATE FOR THE COMMISSION TO ACT PROMPTLY TO TAKE WHATEVER CONFORMING STEPS ARE NECESSARY TO BRING ITS POLICY AND REGULATIONS INTO LINE WITH THE DOE POSITION ON THIS MATTER, AND TO DO SO AS PROMPTLY AS POSSIBLE -- PARTICULARLY IN LIGHT OF THE QUESTIONABLE LEGAL AUTHORITY OF THE COMMISSION TO IMPOSE THIS INTERPRETATION AS A "CONDITION OF CONCURRENCE" IN THE FIRST PLACE?

ANSWER.

SEE ANSWER TO QUESTION 3(B). NO CONFORMING STEPS ARE NECESSARY AT THIS TIME. HOWEVER, NRC WILL ISSUE A PUBLIC STATEMENT REGARDING THE CONTINUED VALIDITY OF ITS CONCURRENCE IN THE DOE SITING GUIDELINES.

COMMISSIONER ASSELSTINE ADDS THE FOLLOWING:

COMMISSIONER ASSELSTINE BELIEVES THAT DOE'S CHANGE IN POSITION CONCERNING THE TIMING OF THE PRELIMINARY DETERMINATION IS A SIGNIFICANT CHANGE IN THE BASIS FOR THE COMMISSION'S CONCURRENCE IN THE DOE SITE SELECTION GUIDELINES. HE BELIEVES THAT DOE SHOULD REQUEST A MODIFICATION OF THE NRC CONCURRENCE IN THE GUIDELINES AND THAT NRC SHOULD RE-EXAMINE THE ADEQUACY OF THE GUIDELINES IN LIGHT OF THE NEW DOE POSITION. THIS SHOULD BE ACCOMPLISHED IN ACCORDANCE WITH THE ESTABLISHED PROCEDURES FOR SUBSEQUENT DOE MODIFICATIONS TO THE GUIDELINES.

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GAIL McGREEVY HARMON
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October 11, 1985

Hon. Pete V. Domenici, Chairman
Subcommittee on Energy Research
and Development
Senate Energy and Natural Resources
Committee
Washington, D.C. 20510

Dear Mr. Chairman:

Pursuant to your letter of September 30, enclosed are my responses to the questions you have posed to me as followup to your September 12, 1985 hearing on the DOE Nuclear Waste Mission Plan.

Sincerely yours,

Dean R. Tousley

Dean R. Tousley

ASSOCIATE ATTORNEY FOR
THE YAKIMA INDIAN NATION

Enclosure

cc: Mr. Melvin R. Sampson
Mr. Russell Jim
Mr. James B. Hovis

Responses of Dean R. Tousley
Attorney for the Yakima Indian Nation
to Questions Posed by the
Senate Subcommittee on Energy Research and Development

1. The Yakima Indian Nation along with the State of Washington signed into C&C negotiation agreements with DOE. Your testimony stated that the schedule pressure not only would have effects on the technical quality of the program, but also would threaten meaningful C&C negotiations. Would you elaborate on any evidence from your experience in such negotiation to substantiate your observation?

Response: The thrust of the testimony I presented was that schedule pressure would adversely affect the quality of consultation and cooperation itself--not negotiation of a C&C agreement. Our concern is that the pressure of deadlines which do not reflect the realities of this program will make it very difficult or impossible for DOE to "consult" or "cooperate" in a meaningful way with states and tribes. It should be apparent from the universally critical testimony of states and tribes before your Subcommittee that this fear is already being realized.

2. Sixty percent of the Nation's total inventory of defense wastes are at the Hanford site and some of these are not readily retrievable. What do you suggest as to how the Mission Plan should address the disposal of the remaining defense waste?

Response: As a threshold matter, there is no classification of "readily retrievable" wastes in the Nuclear Waste Policy Act. The Act specifies rather that high level radioactive wastes from defense programs should be disposed either in a separate defense only repository or comingled with commercial wastes in the same repositories. Neither the NWPA nor any other legal authority of which we are aware provides DOE with discretion to classify defense high level wastes (DHLW) as "not readily retrievable", and thus presumably not subject to repository disposal.

For over two years, DOE has been delaying issuance of a draft EIS for its disposition of the Hanford DHLW. In other forums, DOE has made clear its preferred "reference plan" to somehow stabilize the 149 old, leaking single-shell tanks of waste in place. It is a fundamental flaw in the DOE Mission Plan that it does not explicitly discuss this issue, or the options that DOE perceives concerning its disposition of the DHLW at Hanford, or the implications for the waste program if its implicit "reference plan" cannot be carried out. Rather, the Mission Plan simply assumes that DOE will not be required to remove those wastes for disposal in a geologic repository.

The Mission Plan should address this issue as the very uncertain, unresolved one that it presently is, and deal forthrightly with the implications for the whole program which attend the various possible resolutions. Clearly one possible resolution--the one which appears to be required by present law--is that DOE must remove those wastes for disposal in a geologic repository. The Mission Plan's failure even to consider that possibility is a fatal flaw.

3. Do you feel that the Mission Plan, as a document, meets the requirements of Section 301 of the Nuclear Waste Policy Act? Why or why not?

Response: The Mission Plan does not meet the requirements of Section 301 of the NWPA because it does not "provide an informational basis sufficient to permit informed decisions to be made in carrying out the repository program...." The failure to honestly discuss the present posture of decisionmaking concerning the defense wastes at Hanford, as discussed above, is a prime example of this failure. Others are presented in our testimony: 1) DOE's position concerning the timing of the preliminary determination of suitability is the very antithesis of informed decision making. 2) The pervasive emphasis on meeting schedules which are not necessarily reflective of the complexities of this program is another example. The Mission Plan does not adequately treat the possibility that more time will be necessary to complete characterization or licensing, or that failures in consultation and cooperation will result in much litigation which could be avoided with a more relaxed approach which takes C&C seriously. 3) Finally, the Mission Plan does not provide sufficient information concerning the method of selection of potentially acceptable sites for the first repository. That the information was insufficient to permit informed decisions is shown by the selection of a site--Hanford--which could never have been selected on the basis of geologic considerations. Even if basalt were the best conceivable host rock for a repository, no earth scientist screening the thousands of square miles of the Columbia Plateau would select a site within a few miles of the Columbia and Yakima Rivers.

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high level nuclear waste office

Norman H. Bangerter, Governor

Patrick D. Spurgin, Director
Jack Wittman, Associate Director

October 9, 1985

Senator Pete Domenici
The Senate Subcommittee on Energy
Research & Development
434 Senate Dirksen Office Building
Washington, D.C. 20510

Dear Senator Domenici:

Thank you for your letter of September 30, 1985. Included with the letter was a series of questions, two of which requested additional information concerning elements of my testimony provided to the Subcommittee at the September 12, 1985 Mission Plan Hearing. A third question concerned our general view on the sufficiency of the mission plan for purposes of Section 301 of the Nuclear Waste Policy Act. Answers to the questions are included on the attached pages.

Thank you again for the opportunity to provide testimony to the Committee last month. Thank you also for the opportunity to provide clarification for elements of our testimony.

Please feel free to contact me if I can be of any further assistance. With kindest regards I am

Yours truly,

Patrick D. Spurgin
Director

PDS/hud

Responses to Questions for Patrick D. Spurgin,
State of Utah
Mission Plan Hearing
September 12, 1985

1. Your testimony stated that the Mission Plan does not identify primary scientific and technical information related to the designation of a potentially acceptable site. What would you deem as a sufficient "informational basis?"

Response: Information requirements for the identification of a potentially acceptable site must be based on an analysis of the costs and benefits of information collection, and that process must be articulated in the Mission Plan in order for the Plan to provide a sufficient information basis to support informed decisions and informed evaluations of decisions.

A potentially acceptable site is defined in Section 116 (a) of the Nuclear Waste Policy Act as a site" at which, after geologic studies and field mapping, but before detailed geologic data gathering, the Department undertakes preliminary drilling and geophysical testing for the definition of site location". The definition implies the existence of a level of confidence in the geologic conditions at a site that warrants further investment in defining the site itself. The sufficiency of the level of confidence concerning geologic conditions at a site may be characterized as a form of cost-benefit analysis.

Information requirements and financial constraints are in unavoidable tension in the site selection process. A balance between the costs and benefits of information gathering must be struck in deciding whether to proceed to the next phase in the program. The Mission Plan provides no basis for evaluation of the sufficiency of such a balance between costs and information requirements in the identification of potentially acceptable sites.

For the second round repository program, the Mission Plan, through the appended site selection guidelines, notes that there must be sufficient information to allow a determination that, applying certain guidelines, the evidence does not support a finding that the site is disqualified. See Appendix III to 10 CFR part 960. This standard is somewhat paradoxical since, in fact, such a finding is likely to be supported by the absence of evidence. It is difficult to evaluate the balance of costs and information requirements by applying such a standard. For the first round repository program, this balancing is presented in the Mission Plan and elsewhere as a fait acompli without rationale.

Finally, Utah believes that, consistent with Section 102(2)(A) and (B) of the National Environmental Policy Act, environmental and other costs must be factored into the economic judgment of potential acceptability. In addition, site selection program decisions should be based, whenever practicable, upon the affirmative likelihood of the suitability of a site for further study.

2. You have stated that DOE has chosen to externalize the cost to the State pursuing statutory judicial review and it is fundamentally unfair to impose the program cost on the State taxpayers. Do you really think that internalizing such costs would further public confidence?

Response: Public confidence will be fostered by the correction of identified instances of noncompliance by DOE with the Nuclear Waste Policy Act, or by vindication of DOE decisions made in implementing the Act. Since litigation will enable robust review of disputed Department of Energy interpretations of key provisions of the Nuclear Waste Policy Act, it is anticipated that the internalization of litigation costs will ultimately further public confidence.

Section 111 (b)(1) of the Nuclear Waste Policy Act notes that the Act establishes a process for siting, construction, and operation of repositories for the purpose of providing reasonable assurance that health, safety and the environment will be adequately protected from the hazards posed by nuclear waste. Through its elected representatives in Congress, the public has established a process which is deemed necessary to afford the desired protections. At a minimum, conformity with the statutory process is necessary to promote the reasonable assurance of those protections, and consequently, public confidence.

Because of the relationship of the NWPA process to public confidence state participation provisions in the Act include an obligation to insure that the statutory process is complied with by DOE. This obligation is not discharged by the finalization of agency decisions. Where agency action is final, administrative processes are no longer adequate to assure compliance. Consistent with this recognition, Congress established statutory judicial review provisions in Section 119 of the Act. Judicial review is a costly process, at best, but if compliance with the statutory decision process is to be assured and, consequently, if public confidence is to be promoted, it will be necessary to rely on judicial review where the state no longer has any other recourse.

State participation funding provided by Section 116(c) of the Act is founded upon the notion that costs of disposal should be borne by the generators and owners of waste. In assuring public confidence, state participation in the judicial review process is not significantly different in concept from state participation in the administrative process leading to final agency decisions.

There is a natural concern that if resources were available to the states from the Nuclear Waste Fund to enable the states to pursue litigation, the states would use litigation as a tool to obstruct the course of the Nuclear Waste Program. This argument suggests that states will pursue frivolous lawsuits. Such a suggestion is without support.

It may be that the statutory process is excessive if the objective is to meet the purposes stated in Section 111 of the Act. It is also arguable that statutory provisions are insufficient. Identified excesses or insufficiencies in the statutory process can only be addressed by legislative action. Since the process has been established, however, the Department and other parties are obligated to comply with the Act, and mechanisms which assure that compliance are program costs which must be borne by the Nuclear Waste Fund.

3. Do you feel that the Mission Plan, as a document, meets the requirements of Section 301 of the Nuclear Waste Policy Act? Why or why not?

Response: The Mission Plan contains chapters which correspond to the topics enumerated in Section 301 (a) of the Act. To that extent, the Plan meets the requirements of Section 301. But the Mission Plan is intended to be both a planning document and a report to Congress. As a report to be submitted to Congress, the Mission Plan must demonstrate to Congress that the document will provide an informational basis sufficient to permit informed decisions to be made in carrying out the respository program.

As demonstrated in testimony before the Subcommittee, the Mission Plan provides an informational basis for program decisions, but the informational basis is not sufficient to permit informed decisions within the statutory schedule. In addition, the Mission Plan does not inform Congress of informational needs for compliance with statutory processes. For these reasons and for other reasons enumerated in testimony before the Subcommittee, the Mission Plan does not meet the requirements of Section 301 of the Nuclear Waste Policy Act.

Governor's Nuclear Waste Council

November 25, 1985

Honorable Pete V. Domenici
Chairman, Subcommittee on Energy
Research and Development
U.S. Senate
Washington, D.C. 20515

Dear Senator Domenici:

We received your letter of September 30 requesting answers to follow-up questions to a September 12 hearing before your Subcommittee on the Department of Energy's Mission Plan for the Civilian Radioactive Waste Program. Your staff agreed to an extension of the time to respond, and we have now completed our answers to the following questions:

1) The issue of schedules has been mentioned by every state. You have stated that you lost confidence in the program because DOE continues to adhere to an unrealistic time schedule and takes short cuts to make up for early slippage. Would you elaborate on the compression of schedules and any specific areas of concern?

Response:

Our concerns with the schedule are many. First, the licensing period has been accelerated to 27 months, nine months short of the amount of time the Nuclear Regulatory Commission (NRC) has stated is necessary for licensing. NRC staff have argued that they need a minimum of 18 months for their licensing review, but DOE has provided for only nine months. The past history of adjudicatory hearings at the NRC shows that nothing has ever been licensed in nine months and the discovery process has never been completed in three months.

Second, the past desire of DOE to obtain a limited work authorization from the NRC and to construct two full-size shafts during site characterization indicates to us that DOE is searching for short-cuts to meet a schedule that even they do not believe is attainable.

Room 100 • Capitol Square Bldg • 550 Cedar St • St Paul, MN 55101 • (612) 296-2603

Third, the controversy over the timing of the preliminary determination of site suitability is also indicative of DOE's desire to avoid any delay in the selection and characterization of sites for the first repository, even if it were to greatly enhance the credibility and success of the program.

Fourth, the continued front-end compression of the schedule will now result in less than a five month period for in-situ testing at the Texas site and shortened periods of characterization at the Hanford and Nevada sites. The USGS, in testimony before your Subcommittee, has cautioned about the harmful effects of not allowing enough time to carry out the crucial site characterization studies necessary for final selection.

We recognize the need to have an optimistic schedule guiding the repository siting program; however, there is a significant difference between an optomistic, but attainable, schedule and a schedule that is widely recognized as unrealistic by key parties in this siting process.

2) You have stated that DOE fails to recognize the importance of a logical progression in recommending the best possible sites for characterization, and then, you noted the recognition that the determination made at the end of site characterization was a powerful incentive for DOE to recommend the best possible site for characterization. Are you saying only through site characterization prior to "preliminary" determination that we would obtain the safest site? Please elaborate.

Response:

We can not assume that the first repository sites recommended in the draft EAs for site characterization represent the safest possible sites because they were never chosen as such. In the case of Hanford and the Nevada Test Site, their selection was based on the fact that they were federally owned, not on their geologic superiority. In the second repository program, there also was a lack of any systematic and thorough basis for the selection of granite rock bodies in the 17 crystalline states.

If one does assume, however, that DOE is proceeding with a suite of the safest sites for the first repository, the preliminary determination at the end of site characterization will help ensure that DOE recommends for characterization those sites that it is most confident will survive (i.e., the best). For example, knowing that it must have three sites to choose from at the end of characterization, DOE might not risk a marginal site that has been the subject of some criticism by the scientific community unless it chose to characterize four sites. If there is no requirement for completing characterization with three good sites, then DOE could proceed with inclusion of that marginal site without jeopardizing the first repository program timetable if the site must later be dropped.

In addition, the second repository recommendations will include the leftovers from the final selection of the first repository site. It is, therefore, particularly important that those leftover sites are the best that could be brought forward for the second repository program.

3) Do you feel that the Mission Plan, as a document, meets the requirements of Section 301 of the Nuclear Waste Policy Act? Why or why not?

Response:

No. The Mission Plan fails to provide actual expected acceptance rates for defense wastes; it fails to include defense contributions in the discussion of costs; it fails to fully evaluate potential financial, political, legal and institutional problems and their impact on the schedule; and it fails to address any adverse impacts on a state or tribe, other than economic, (e.g., environmental, health and safety) that may arise from a repository.

4) You insist on a complete restart of the site selection process, so as to find the best site. This is a little like driving across country to find the best restaurant -- how does one know when the best is found, and when does the search end? Don't you feel this requirement is unrealistic and irresponsible costly?

Response:

At a time when "excellence" is a widely sought goal, whatever the endeavor, and public apprehension about the dangers of radiation exposure and groundwater contamination runs high, it is unfortunate that the DOE will be unable to state that its objective in this siting process was selection of the safest sites for a 10,000 year period of isolation. Although consensus on the safest sites may never be reached, the absence of this objective is going to greatly diminish program credibility, regardless of the quality of the chosen sites.

The question concerning how one knows when the best is found is rhetorical. It is one that can always be asked and, while it may not always be easy to answer, it should not be used to discount or discard a worthwhile effort. In the case of the repository siting program, there has never been an opportunity to consider the extent or degree to which we should seek the safest sites, because it has never been viewed as a necessary goal.

To carry the restaurant analogy one step further, if it were necessary to eat three meals a day at the same restaurant for the next 10,000 years, I believe that one would drive across the country seeking the best restaurant. The likelihood of finding it, or something approaching it, would be far greater with that objective in mind.

Thank you again for providing us with an extension on the deadline. If you have any further questions, I can be contacted at 612/296-9037.

Sincerely,

Gregg S. Larson

Gregg S. Larson
Director, High-Level Radioactive
Waste Program

STATE OF TENNESSEE
DEPARTMENT OF HEALTH AND ENVIRONMENT
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JAMES E. WORD
COMMISSIONER

October 18, 1985

The Honorable Pete V. Domenici
Chairman, Subcommittee on Energy
Research and Development
United States Senator
Washington, DC 20510

Dear Senator Domenici:

I very much appreciated the opportunity to appear before your Subcommittee on September 12, to comment upon the Department of Energy's Mission Plan for the Civilian Radioactive Waste Program, as well as Tennessee's experience in working with the DOE staff since the MRS proposal was announced last April.

I am today responding to your follow-up questions. The responses to questions 1 and 2 were prepared by the Tennessee Attorney General's Office. The response to question 3 should be considered as tentative, since the Safe Growth Cabinet Council has not yet completed its review of the DOE proposal and supporting documents. I anticipate receiving preliminary draft reports from our staff and consultants about November 15, (provided that DOE responds with adequate information to the state in a timely manner). I shall be pleased to provide your staff with further documentation when the state evaluation is complete.

I am pleased to cooperate with your Subcommittee in its review of the DOE program activities. Thank you for the opportunity to present Tennessee's perspective.

Sincerely,

JAMES E. WORD
Commissioner

JEW/cmj dd/1

STATE OF TENNESSEE
OFFICE OF THE
ATTORNEY GENERAL
450 JAMES ROBERTSON PARKWAY
NASHVILLE, TENNESSEE [illegible]

RESPONSES TO SENATE QUESTIONS FOR COMMISSIONER [illegible]

(Attorney General's Portion)

1. Tennessee has not entered into a consultation and cooperation agreement with DOE. The reason for the State's lack of participation in that process is DOE's insistence that consultation and cooperation need not occur until after Congress authorizes construction of the MRS Facility. See Screening and Identification of Sites for a Proposed Monitored Retrievable Storage Facility, DOE/RW-[illegible], April, 1985, p. [illegible]. See also Monitored Retrievable Storage Program: Briefing Package, Office of Civilian Radioactive Waste Management, July [illegible], 1985, at [illegible]. (copy attached). While DOE's position is inconsistent with the language of 42 U.S.C. § [illegible] and with the legislative history of the Nuclear Waste Policy Act, the Department's rigid adherence to its position has prevented negotiation of a consultation and cooperation agreement.

2. The Mission Plan has been examined by this Office for its compliance with 42 U.S.C. § [illegible] as the Plan relates to the proposed MRS Facility. From that examination, we have concluded that the Plan does not adequately discuss:

   (a) certain "problems that may impede the implementation of this Act, . . . and recommendations for any necessary legislation to resolve such problems." 42 U.S.C. § [illegible]. One major example of the Plan's shortcomings concerns the failure of the document to address liability issues and necessary changes in the Price-Anderson Act.

   (b) estimates of annual costs for construction and operation of an integrated MRS Facility. 42 U.S.C. § [illegible]. The cost estimates in the Plan that relate to an MRS Facility are predicated on a commitment to a "back-up" MRS Facility rather than the "integrated" facility which DOE now envisions.

[illegible]
Attachment

717

Role of the State

P.J. Gross

July 1985

DOE/State Interaction

Interaction process will continue through:

- Pre-approval
- Post-approval
- Construction/operation

Pre-Approval Interaction

During pre-approval interaction DOE has the following goals:

- Fully informed state/local governments who may participate knowledgeably in the Congressional consideration of the MRS proposal i.e., no surprises
- Provide grants that support state participation
- To understand the state/local governments' positions on MRS issues

Pre-Approval Interaction

During pre-approval interaction DOE plans to:

- Provide information for state/local review
- Receive input from state/local governments
- Respond to state/local requests for information so that they may determine their position on acceptability of an MRS in Tennessee

Pre-Approval Interaction

Minimize potential for surprises by providing state/local governments information through:

- Briefings
  - General briefing
  - Designs and material status briefing

- Technical meetings
  - On issues raised by the state
  - Information can be transferred by telephone or face to face

- Public meetings
  - Following briefings
  - To summarize subjects covered in the briefing
  - To answer questions from the public

Pre-Approval Interaction

DOE is looking forward to state/local input during development of the MRS proposal.

- This will help focus DOE attention on issues important to state/local governments.
    - Input received by DOE will be reviewed
    - Timely reports/summaries of public meetings will be particularly useful in identification of issues requiring DOE consideration and discussion with the state/local governments

Pre-Approval Interaction

DOE support in providing information should result in:

- A better proposal
- State/local formulation of positions on issues raised by the proposal
- State/local participation in Congressional process which considers the MRS proposal

Pre-Approval Interaction

With respect to Congressional consideration of the MRS proposal, it should be noted that:

- Congress did not commit to specific procedures to review MRS as it did for the repository
- Congress may consider sites outside the proposed host state or designs not included in the DOE proposal

Post-Approval Interaction

If MRS is authorized, DOE plans to continue the interactive process through:

- Negotiation of Consulting and Cooperation Agreements (Section 117)
- Negotiation of Impact Assistance with local communities (Section 141)
- Development of environmental documentation in support of a license application
- NRC licensing process

Post-Approval Interaction

Under Section 117 of the NWPA, DOE is required to negotiate a consultation and cooperation (C&C) agreement with the MRS host state.

- DOE and the state will be able to work together to determine which State bodies should be involved in the negotations
- The appropriate scope of such an agreement is addressed under Section 117 (c) (1) - (11) which explicitly covers the following procedures:
    - State study/comment on impacts
    - DOE response to comments
    - Review or modification of the agreement
    - State impact reports

Post-Approval Interaction (cont'd)

  - DOE assistance in state/local study of certain issues
  - Schedule of consultation
  - Transportation notification
  - State conduct of reasonable on-site monitoring
  - Sharing of technical and licensing information
  - Public notice of the C&C agreement
  - Resolution of state objections

- A formal agreement will result from the negotiations within 6 months
  - If not, DOE has 30 days to provide a status report to Congress

Post-Approval Interaction

State will have the opportunity to participate in development of the MRS environmental documentation in support of DOE's licensing application.

- NEPA applies except:
  - Need will have already have been determined by Congress, if authorized
  - Alternatives to the design criteria listed in the Act need not to be considered (Section 141 (c)(2))

- Formal NEPA participation applies to development of the EIS, including:
  - Scoping
  - Draft EIS for comment
  - Hearings, if necessary
  - Final EIS, with comment/response

Post-Approval Interaction

The State may participate in the NRC licensing process.

- NRC licensing is an evidentiary process, much like a trial
- State may elect to participate in process as a party, or
- State, county, municipality and/or agencies thereof may participate under 10 CFR 2.715 (c) without taking positions on specific issues
    - Allowed to introduce evidence
    - Interrogate witnesses
    - Advise Commission on issues
    - File proposed findings or exceptions
- State may have participated in this type of process with respect to both the Clinch River Breeder Reactor and the Hartsville reactors

Post-Approval Interaction

If MRS is authorized, local communities may apply for impact assistance.

- Purpose of impact aid is to mitigate any social or economic impacts resulting from construction and operation of an MRS facility (Section 141 (f) (1))
- Impact aid is available to local governments within whose boundaries the MRS is located (Section 141 (f) (1))
- Impact aid may be used only for "planning, construction, maintenance, and provision of public services related to the siting" of the MRS (Section 141 (f) (2) (B))
- DOE is required to issue regulations to implement the impact aid process (Section 141 (f) (3))

Post-Approval Interaction

Local impact assistance regulation will be developed:

- Timing of draft regulation promulgation has not yet been determined
- Rules would be developed under the Administrative Procedure Act
    - Draft rule for public comment
    - Final rule

Construction/Operation Interaction

DOE expects to continue interactive process

- State regulatory authority
  - Facility
  - Transportation
    - Covered in earlier presentation

Construction/Operation Interaction

State regulatory authority with respect to the MRS facility

- DOE intends to construct and operate the facility in compliance with state and local regulations consistent with DOE responsibilities under the NWPA
    - Specifics can be worked out during C&C negotiations

      Examples would be:
      - Construction permits
      - Sewage permits
      - Onsite operations
- All federal regulations will be complied with:

  Examples would be:
  - EPA - PSD permits
    - NPDES requirements
  - COE - 404 permits, if needed
  - TVA - with respect to transmission lines

Response to Question 3

3. The Safe Growth Cabinet Council has not yet completed its review of the DOE report entitled "Screening and Identification of Sites for a Proposed Monitored Retreivable Storage Facility," (DOE/RW 0023). Preliminary conclusions suggest that the process may be technically as well as legally flawed.

The Nuclear Waste Policy Act does not establish specific criteria to be used by DOE in site selection for an MRS. In the absence of statutory guidance, DOE has set programmatic goals and developed selection criteria to meet them. These programmatic goals are more political and institutional than technical. The process used by DOE places an unwarranted emphasis on a "do-able" site--not does not necessarily result in selection of the "best" site.

The selection process is not a ". . . rigorous site selection and evaluation process . . ." as it is described in DOE/RW-0023, on page 1. The major reservations about the validity of the process include:

- the heavy emphasis upon reduction of transportation impacts;
- the emphasis upon NRC docketed land, or land in federal ownership;
- the reliance upon questionable site-specific data;
- the fact that the technical selection criteria were not applied uniformly and fairly; and
- the fact that the technical selection criteria were not weighted.

REDUCTION OF TRANSPORTATION IMPACTS. The state questions whether the reduction of "shipment miles" should be such an overriding site selection criterion. This factor may have been assigned too much importance. DOE used computer modeling to define a "preferred region" for the location of an MRS. As an element of its independent review of the MRS proposal, the state will examine the suitability of the computer codes used by DOE, with particular attention to the validity of DOE's basic assumptions (e.g., regarding size and capacity of casks, or modes and routes of transport) and the sensitivity of the analysis. Another element of the state review will determine whether and to what degree, transportation impacts could be reduced by system improvements without an MRS. Neither task has been completed.

NRC-DOCKETED OR FEDERALLY-OWNED LAND. DOE used NRC docketing or federal ownership as a major screening criterion because of their ". . . extensive existing site data bases . ." For some of the 37 sites--including the Clinch River Breeder Reactor Site and the Hartsville site--this statement is justified. For other sites, the assumption is unwarranted. For example, the Oak Ridge Reservation was acquired, and facilities built on the reservation before NEPA was passed; no EIS has been prepared for these sites. The DOE facilities on the reservation (Y-12, ORNL and K-25) have never been docketed or licensed by the NRC.

Moreover, examination of the data base reveals that for the Oak Ridge Reservation site, there is limited site-specific data available; most of it is regional data. The EXXON site, for which a draft EIS was prepared, is adjacent to, but not coincident with the proposed MRS site. Finally, recent investigations in the Bear Creek watershed have documented extensive contamination by heavy metals, radionuclides and organic solvents. The need to define the extent of contamination on the site could seriously delay licensing of an MRS on this site, and might make it difficult, if not impossible, to monitor an MRS because of the presence of other sources of radioactivity on (or beneath) the site.

Examination of Table A.1. in DOE/RW-0023 suggests that the federal ownership criterion may have been selectively applied. For example, the Portsmouth, Ohio site lies within the "preferred region"; it is owned by the federal government and managed by a contractor for DOE; it contains 3,708 acres (more than three times the minimal 1,100 acres); and according to the entry on page 50, has no potential site conflicts. The Portsmouth site has excellent access to rail, highway and waterway transportation. It was not selected as one of the "round of 11" sites. Why?

According to the site descriptions, the attributes of the Paducah site are virtually identical to those of the Oak Ridge Reservation (Bear Creek) site. Yet the Oak Ridge Reservation site was not only selected as one of the "round of 11" sites, but was selected as one of the three sites to be presented to Congress. The logic is unclear; the inconsistency leaves the fairness of the process open to question.

It is possible that the preference for federally owned sites may have prematurely eliminated excellent sites in private ownership from further consideration.

QUESTIONABLE SITE SPECIFIC DATA. Our preliminary investigations suggest that for some sites, DOE may have relied upon old, fragmentary, or incomplete data. As a part of our environmental assessment monitoring process, geologists and biologists from the Tennessee Department of Conservation visited the DOE contractors to examine the data sets upon which DOE relied in its site selection process (and upon which the environmental assessment will be based). Their examination revealed serious deficiencies.

For example, at the Clinch River Site, extensive core drilling had been performed during the CRBR site investigation. The drilling was not, however, on the portion of the site where DOE proposes to build. An attempt to determine the rate and extent of travel of ground water in the Knox formation beneath the CRBR site was inconclusive; a tracer dye introduced into an up-gradient bore hole simply disappeared. The problem was not solved; the limited site specific information suggests that licensing may be delayed on this site.

No site specific geological investigations have been conducted on the Oak Ridge Reservation site.

Two ecologists examined the data consulted by the DOE consultant in their evaluation of the ecological characteristics of the 11 candidate sites. Their report stated:

> "The data and copies of reference we saw were supposed to be the same as those used by ESI. All were supplied to ESI by DOE. Many pages were illegible. We only saw data on two sites which we judged adequate to support the conclusions in the tables . . . Our conclusion is that DOE made their eleven to three site selection decision in the absence of useful (referenced, verifiable) ecological data."

The description of Tennessee's institutional structure in the Golder Report (Volume 3) is incomplete and inaccurate.

Examination of other data sets have not been completed; if these sets prove to be as inadequate as the sets we have examined, then we place very low confidence upon DOE's analysis and conclusions.

UNIFORM AND FAIR APPLICATION OF CRITERIA. DOE characterized five factors as "Discriminatory" factors. They are: potential land use competition;

potential competition with environmental regulatory objectives; potential geotechnical site conditions; potential problems with local transportation access; proximity to population centers. No relative weights were assigned to the five factors.

A careful reading of the document DOE/RW-0023 and the three volume "Golder Report" suggests that these factors were not applied uniformly, or consistently. For example, the narrative states that the Paducah site was eliminated for land use and environmental considerations, specifically because

> ". . . (it) is adjacent to an area designated by the EPA as one in which they wish to prevent deterioration of air quality. . ."

The Class I Area is identified on page 67 as Mammoth Cave National Park.

However, Mammoth Cave National Park is approximately 140 miles east of the Paducah site. The Hartsville site is closer to Mammoth Cave than Paducah is (approximately 60 miles away)--even though it is in Tennessee. Even the two Oak Ridge sites are slightly closer to Mammoth Cave than Paducah; they are approximately 130 miles away.

DOE and its consultants did not consider the proximity of the Tennessee sites to the Great Smoky Mountains National Park (also a Class I PSD Area) to pose a potential conflict with environmental regulatory objectives, why not? Either of the Oak Ridge Sites is within 32 miles of the Park Boundary. Even the Hartsville site is arguably as close to the Smokies as Paducah is to Mammoth Cave. DOE appears to be inconsistent in the application of this discriminatory criterion.

The Yellow Creek Site was deemed to be in potential land use competition with the "high recreational use" on Pickwick Reservoir in northern Mississippi. This statement appears somewhat absurb--inasmuch as the Yellow Creek Site is at the northern terminus of the Tennessee-Tombigbee Waterway, and the state of Mississippi is vigorously recruiting industrial manufacturing plants to locate their operations at the industrial site adjacent to Yellow Creek.

DOE failed to collect or report recreational use statistics for the Tennessee sites. The Oak Ridge sites are immediately adjacent to Melton Hill and Watts Bar Reservoir and within fifty miles of Norris, Tellico and Louden Reservoirs. Moreover, the Oak Ridge sites are close to the Obed National Scenic River, and the Big South Fork Recreation Area--a rapidly developing recreational area in the North Cumberlands. The Catoosa Wildlife Management Area and the Chuck Swann Wildlife Management Area are within 50 miles of the Oak Ridge sites. The potential conflicts of a nuclear waste facility with these established recreational resources was not considered by DOE. If recreational use is important at Yellow Creek, it should also be an important factor in Oak Ridge.

It is more likely that both the Paducah Site and the Yellow Creek Site were eliminated from further consideration because they are within the high hazard zone of the New Madrid fault. This factor is not cited as a reason to eliminate them from further consideration, even though a requirement to meet a higher earthquake standard might delay licensing and add to costs of construction. Is this reticence attributable to DOE's argument that an MRS could be engineered and built anywhere?

THE SITE SELECTION CRITERIA WERE NOT WEIGHTED. In most "rigorous and objective" site selection processes, it is customary to list selection criteria, to assign weighted values to each criterion, and apply the criteria to the candidate sites in an ordered and uniform manner. We have no indication that this was the case for the MRS site selection.

We have on several occasions, asked for a detailed explanation from DOE and its contractors as to how the 11-site list was narrowed to a 3-site list . . . all in Tennessee. We have asked to examine working papers. We have received no explanation, and have been told that the final selection was based on the personal judgement of the Director, in consultation with his senior staff.

We believe that further analysis of the site selection may reveal additional deficiencies. The examples cited above suggest that site selection process was hasty and flawed--technically as well as legally.

STATE OF MISSISSIPPI
OFFICE OF THE GOVERNOR
JACKSON 39205

BILL ALLAIN
GOVERNOR

POST OFFICE BOX 139

The Honorable Pete V. Domenici
United States Senator
Chairman, Subcommittee on Energy Research and
Development, Committee on Energy and Natural
Resources
United States Senate
Washington, D.C. 20510

Dear Senator Domenici:

Thank you for your September 30, 1985 letter requesting answers to three specific questions arising out of the testimony I gave before your Subcommittee on September 12 regarding the Department of Energy's "Mission Plan" for the Civilian Radioactive Waste Program. I appreciate the opportunity to appear before your Subcommittee and to now further clarify my remarks regarding some of the principal concerns of the State of Mississippi.

I will address your specific questions as they were posed, as follows:

Question 1: The State of Mississippi dismissed the Mission Plan as a total disaster: "Omission Plan." It seems DOE just did not do anything right in Mississippi. If the State of Mississippi is distressed that DOE is avoiding addressing many thorny issues, then, why did the State of Mississippi not enter into C&C negotiation agreements with DOE?

You might find it interesting that Mississippi and DOE officials began discussing a written agreement regarding our involvement in the federal high-level nuclear waste program back in early 1979. DOE intensified these discussions in mid-1980, after former Governor Winter imposed a moratorium on all new DOE field activities in the state and former Attorney General (now Governor) Allain filed a comprehensive Freedom of Information Act request to obtain DOE documents related to their operations in Mississippi. Successive drafts and redrafts of a proposed agreement were exchanged over the course of the next two years. In February, 1982, DOE forwarded to us their proposed "Principles of Agreement," which were used by our officials to rewrite an agreement for internal review.

In November, 1982, at a meeting in Columbus, Ohio, Mississippi officials and DOE "peer reviewers" were shocked by a sudden and unexplained decision by DOE to abandon the "location phase" of the overall program. This drastic change signaled to our representatives the absence of good faith on DOE's part, and greatly chilled - if not killed - our willingness to consummate a formal agreement with the federal government. While work on a suggested agreement did continue well into 1983, the Nuclear Waste Policy Act (the "Act") was passed in the interim and its approach clearly differed from the provisions of the "Principles of Agreement" formerly tendered by DOE. That brings me to the main point of my answer to your question, inasmuch a formal agreement between our state and DOE has not been actively pursued since September, 1983.

As you quite eloquently stated in your opening remarks at the hearing on September 12, it was the intent of Congress in passing the Act to guarantee the states and tribes both "fundamental input" and "substantive participatory rights" in the entire process by which the Department of Energy would implement and administer the Act. As you will recall, in my oral statement I particularly complimented your explanation of the intent of Congress regarding the role of the states in the high-level nuclear waste program, and explained that one of our major concerns is the documentable fact that neither the states nor the tribes have received, in substance, the very things you intended for us to have.

In your question there seems to be the implicit suggestion that the relationship between the Department of Energy and the several affected states and tribes might be "enhanced" if such parties would enter into written "consultation and cooperation" agreements. As a matter of fact, a prominent DOE staffer intimated as much at a meeting between headquarters staff and the "first-round" states and tribes in Denver in November, 1984. This suggestion was made during a rather heated discussion about the wholesale failure of DOE to timely respond to numerous letters of request submitted by several of the affected states and tribes regarding various aspects of the program. Being unable to get even acknowledgements of receipt of our correspondence, let alone substantive responses, the states put DOE on notice at that time that we would have no choice but to invoke the sanctions provision of section 117 (a)(2) of the Act unless DOE began to answer our inquiries in a timely and meaningful way. Mr. Rusche's staff pledged at that time to engage in a productive informal "consultation and cooperation" effort in which we would be afforded timely, substantive, and accurate responses to our requests or recommendations, but subsequent events reflect that this was largely an empty promise.

Section 117(c) of the Act mandates negotiation of a written agreement after a site in a particular state is formally designated for site characterization. In view of the fact that such an agreement would have to address local circumstances and needs peculiar to a particular site, a structured written contract between the state in question and the Department of Energy is reasonable at that time. However, every "consultation and cooperation" aspect of the program leading to the ultimate designation of sites for characterization should have all the states and tribes standing on equal footing with respect to each other and with respect to the federal government. To even suggest that one state, prior to becoming the victim of actual site characterization, may "cut a better deal" than the other states or "gain an inside track" by negotiating a formal contract is not only an open insult to the states, but denigrates the entire process set forth by Congress in the Act.

Indeed, to insure that all states and tribes have equal standing under the law, Congress required certain things of DOE under the provisions of Section 117(a) of the Act. In particular, the Act requires DOE to provide "timely and complete information" regarding every facet of repository siting. Moreover, the sanctions to which I have just referred, as set forth in Section 117(a)(2), give the states a device with which to stop DOE activities in a state if and when DOE fails to comply with the mandatory consultation and cooperation requirements of the law. Our dealings with DOE have shown repeatedly that the information we have been able to obtain is neither timely nor complete, and we have refrained from invoking the sanctions afforded by Congress only because we have relied, to our great detriment, on the hollow pledges of DOE to do what you, and Congress as a whole, admit you intended in the beginning.

Therefore, there has really been no need whatsoever for a "C&C" agreement with DOE, after passage of the Act, for us to lawfully obtain the information, and to have the substantive involvement, to which we are entitled, and which DOE is required by law to afford.

Question 2. Do you feel that the Mission Plan, as a document, meets the requirements of Section 301 of the Nuclear Waste Policy Act? Why or why not?

As an attorney, I am compelled to begin my answer to this question from the threshold of all such inquiries, which is that whether or not a particular document, or the actions taken to produce it, meet the "requirements" of any particular statute may be determined only by a court of competent jurisdiction, after full consideration of both the "letter" and "intent" of the statute under review. Having said that, I will hasten to further say that, in my opinion, the Mission Plan does not meet the "requirements" of Section 301 of the Act.

Congress, in the clear language of Section 301, required the Mission Plan to be a "comprehensive report... sufficient to permit informed decisions..." Further, the document had to: (1) contain certain information, (2) address certain issues, (3) prescribe certain timetables, and (4) set forth certain costs and other data, including estimates and projections regarding certain specific aspects of the overall program. So, the very first question to be answered is whether or not the Mission Plan, as tendered to the Congress, literally contains each and every element specifically identified in Section 301, consistent with the Congressional history underlying the language of the Act. [illegible]

[illegible]

[illegible]

[illegible]

[illegible]

Thus, while I have not attempted to be exhaustive here, I do not feel that the Mission Plan, in its present form, meets the requirements of Section 301 of the Nuclear Waste Policy Act, because it is not "comprehensive" and is incompetent as a "basis for decisionmaking."

Question 3: You insist on a complete restart of the site selection process, so as to find the best site. This is a little like driving across country to find the best restaurant -- how does one know when the best is found, and when does the search end? Don't you feel that this requirement is unrealistic and irresponsibly costly?

A careful reading of the testimony I have given thus far regarding the DOE high-level nuclear waste program will show that I have not endorsed "starting over" the site selection process. Rather, I have consistently attempted to point out that the principal reason the "first-round" program is in such dire jeopardy right now is that DOE has wholly failed, with the help of Congress, to engage in a credible, reasonable examination of available sites throughout the United States.

The manner in which the federal government, with the aid of Congress and through the auspices of DOE, targets a victim for a geologic repository for high-level nuclear waste will ultimately be judged under the intense lights of both judicial strutiny and public opinion. DOE seems to take great delight in contending, as you suggest, that there is no such thing as the "best" site for a repository, and that an "abbreviated" investigation of potential sites is therefore reasonable. While it may be reasonable to contend that time and monetary constraints would encumber a detailed scientific examination of every single site in the United States which has even remote potential to serve as a geologic repository for high-level nuclear waste, it is patently absurb to suggest that such a site should be chosen from only a small number of the known sites which might be found suitable. If such ludicrous logic were to prevail, the federal government might just as well examine only one site and license it. The credibility, as well as the public acceptability, of the entire program will thus turn on the reasonableness of the Department of Energy's efforts to select a site which appears to stand considerably above the rest out of a substantial representative grouping of available sites. How many sites is "substantial" is the thorny question at the root of the entire controversy. As I have already indicated in my oral and written statements to your committee, the shaping of the Act to basically hinder -- but certainly not prevent -- DOE from expanding the number of sites which might have been declared "potentially acceptable" under the provisions of Section 116(a) was born, in my view, out of political bargaining with the nuclear utility industry and the Department of Energy. This decision certainly had no credible basis from the standpoint of the scientific, socioeconomic, or other factors inherent in, and essential to, the selection of a repository site.

Since the "first-round" states and tribes have consistently maintained that the entire program to date has been an exercise in "working backward" from the existing nine sites under "active" review when the Act was passed, including shaping the siting guidelines and the Mission Plan accordingly, it stands to reason that the current program would be fairing better had there been a good faith, intelligent effort in the beginning to bring more sites, from either the same or additional prospective host media, into the examination process. I certainly do not feel that a reasonable expansion of the site screening process would have been viewed as either "unrealistic" or "irresponsibly costly."

Since you have broached the subject, I would respectfully point out that there appears to be growing sentiment that the decision to construct a gigantic federal program, which would ultimately cost the taxpayers of this country several billion dollars, to select a site for a geologic repository for high-level nuclear waste, when there already exists a facility in your great State of New Mexico which could be readily expanded to receive and contain the waste in question, is the height of fiscal (and political) irresponsibility. The fact remains, however, that, as appears to be the case in virtually every other aspect of the high-level nuclear waste program, the present limited status of the New Mexico site, including its exclusion from consideration as a first- or second-round repository, rests not on a foundation of science, socioeconomics, or anything else -- just politics, pure and simple.

So, while we have not advocated a "complete restart" of the site selection process, there being no assurance that we would see any good faith reexamination of the siting guidelines, the Mission Plan, the consultation and cooperation process, or the environmental assessment process, I certainly do not feel that, given the mission of the program and the order of magnitude of taxpayer dollars already being (and to be) funneled into the current DOE effort, a mere responsible site selection process would have been either too time consuming or costly.

In summary, thank you, again for the opportunity to have this exchange with you on these most serious issues. I will be happy to further discuss these or any other issues related to the DOE high-level nuclear waste program at your convenience.

Sincerely yours,

J. I. Palmer, Jr.

J. I. Palmer, Jr.
Administrative Assistant
to the Governor

STATE OF MICHIGAN

COMMISSIONERS
~~Eric J. Schneidewind~~ William E. Long
Edwyna G. Anderson
Matthew E. McLogan

JAMES J. BLANCHARD, Governor

DEPARTMENT OF COMMERCE
DOUG ROSS, Director

PUBLIC SERVICE COMMISSION
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October 10, 1985

Honorable Pete V. Domenici, Chairman
Subcommittee on Energy Research & Development
United States Senate
Room SD-358, Dirksen Senate Office Bldg.
Washington, D.C. 20510

Dear Senator Domenici:

Enclosed are responses to the follow-up questions you sent to us last week. We are grateful for the opportunity to have appeared before the Senate Subcommittee on Energy Research and Development and hope that our testimony and the answers to your questions will be useful.

If we can be of further assistance, please do not hesitate to call upon us.

Sincerely,

Edwyna G. Anderson

Edwyna G. Anderson
Commissioner & Chairperson
NARUC Subcommittee on
Nuclear Waste Disposal

/rve
Enclosure

Answers of Edwyna G. Anderson
National Association of Regulatory Commissioners

Mission Plan Hearing
September 12, 1985

I. Q What methods would you propose to assure that the DOE civilian radioactive waste program is carried out in a cost-effective manner? Would an independent evaluation by GAO on an annual basis help allay your concerns?

A Recognizing cost control and improving it is our central concern, as indicated in our testimony. We have suggested a vigorous pursuit of the lessons learned from excellent and poor management of nuclear power plant construction programs, including provisions for overcoming the gaps in design construction, licensing and state and federal regulation; investigation of whether the past and projected waste program failures to meet deadlines guarantee a much longer, hence, much more costly program; the inclusion of program costs into the decision-making process rather than as a later information-only result; the use of consultants and peer groups to review, assess and advise program management, including a revisiting of the recommendations of the Advisory Panel on the Managing and Financing of Radioactive Waste Facilities; and program improvement through the reassessment of Departmental efforts at public and institutional relations. We warned of the dangers that a focus on fee increase would induce. We conclude that there is a need for "attention, review and audit (of the program) both internally by the DOE and externally by the Congress ..."

As for the U.S. General Accounting Office (GAO), their important and crucial input to a well-designed and conducted program is recognized. More specifically, we acknowledge the important finding of the GAO in that there is a considerable need for upgrading and making consistent the review of contractors, who expend over eighty-five percent of the nuclear waste budget. I am personally gratified that, in the letter of September 19, 1985, from Committee Chairperson McClure and Ranking Minority Member Johnston to Comptroller General Bowsher, they have called for strengthened efforts to "identify any weaknesses that may exist in the program, such as poor planning, duplication, imprudent management, waste ..." My personal suggestion is that, if it has not happened, the Committee and its staff consult with the GAO to flesh out your Committee's concerns and receive a detailed understanding of the GAO's approach to this difficult but very important task. I also strongly support the request made to GAO to investigate the Department's State-Federal relations. If I could add an additional recommendation, it would be for the Congress to receive, beginning now, results more frequently than annually, and for the Congress to assure that the understandable but evident resistance of the Department in the matters of GAO findings does not stand in the way of needed implementation.

In conclusion, I wish to reemphasize the value of an independent, skilled review of the waste program management. The NARUC is committed not to disrupting or embarrassing the program management, but to assuring that the best techniques and program implementation this country can master are applied to this very expensive and very much needed program.

2. Q DOE estimates that the costs of site characterization will be approximately $800 million per site. In view of this large expense, and your concerns about cost-containment and adherence to schedules, do you feel that evaluating additional sites at this time -- beyond the 3 that will be studied -- would be "imprudent" and not in the best interest of the ratepayers who are funding this program?

A Unnecessary expense is the last thing the NARUC has in mind to recommend. We do not have a recommendation, as such, on the advisability of characterizing a fourth site. We do note that the recommendation was made as a part of a salutary effort to improve program certainty, hence, its credibility. These are commendable goals whether or not the fourth site characterization is advisable; certainly a (possible, I believe) scenario in which an insufficient number of sites are characterized would be a financial disaster. I would hope that the program management would look at the intent of the recommendation and honor it, even if the specific proposal is dismissed as undesirable. We believe contingency planning is one very important way to reduce future program shocks and thus to control costs.

3. Q Are you aware of the fact that the cost agreement between DOE's Waste Office and Defense Programs will be printed in the Federal Register for public comment. Perhaps if you have reservations about the agreement, you will avail yourselves of the opportunity to comment at that time?

A We are aware that what we believe is a draft cost agreement between the two Departmental offices will be printed in the Federal Register for comment. We indicated, however, our concern over the conflict of interest that such an arrangement represents and question that such an arrangement, obviously not at arms length, will serve the interests of electric ratepayers.

I am personally concerned that the agreement, before it is released for comment, will already have the blessing of DOE offices and, presumably, all DOE management; thereafter, all outside comments and recommendations will be received and resolved by the agency itself. I intend to see that our Nuclear Waste Disposal Subcommittee responds during the official response period. The outcome of this cost agreement will have an enormous impact on program finance and ratepayer burden.

4. Q In view of your recognition of the importance of developing a fully integrated system, and your concern that the schedule remain reasonably certain, don't you find DOE's concept of a Monitored Retrievable Storage facility a reasonable means of accomplishing those ends?

A The NARUC, as stated, neither supports nor rejects the concept of a Monitored Retrievable Storage facility (MRS), as such. In our testimony, we did call for an expert, far-reaching and dispassionate analysis to be brought to the Congress, so that the Congress would best be able to determine the advisability of an MRS. We also recognize the value of a full systems integration program and commended the DOE for its effort in beginning to replace the former "repository-only" program with a full systems development program.

We also noted the MRS decision obviates many other decisions that reach throughout the program, making it an even more important decision. We wish also to reemphasize that the entire spent fuel handling and waste disposal program is paid for by ratepayers. It is therefore important that all analyses designed to assess, control and/or minimize total costs reflect this understanding.

October 10, 1985

Serious Texans Against Nuclear Dumping
Rt. 2, Box 28
TULIA, TEXAS 79088

October 11, 1985

The Honorable Pete V. Domenici
Subcommittee on Energy Research & Development
U.S. Senate
SD-317
Washington, D.C. 20510

Dear Senator Domenici:

I appreciated the opportunity to testify before you and the other members of the Subcommittee on September 12.

As you requested, I have enclosed my written answers to the five questions that you sent, dated September 30. I hope that the questions and my answers to them will be included in the hearing record.

Please forward me a copy of the hearing when it is printed. Also, please put me on the mailing list for notices of future Subcommittee hearings related to the Nuclear Waste Policy Act.

Thank you.

Sincerely,

Delbert Devin
President

Questions for Mr. Delbert Devin
Serious Texans Against Nuclear Dumping (STAND)

Mission Plan Hearing
September 12, 1985

1. On the one hand, you criticize DOE's Nuclear Waste Program for excessive costs, yet on the other, you call for a complete retreat in the site selection process in order to start all over from the beginning on a much more "comprehensive" search for the very best possible site.

   These goals are not mutually compatible. Have you considered the impact that restarting the program from scratch would have on the costs, and therefore on the ratepayers of this nation?

2. You complain about lack of adequate public participation in the program, yet in the Mission Plan, and in draft documents released by Federal agencies, there are opportunities for public input, and evidences of real responsiveness on the part of those agencies to those public comments. It seems that in your testimony you have simply chosen a few case histories where the system did not function quite as you think it should have, would you elaborate on your complaint?

3. You describe the difficulty of reaching a C&C agreement with DOE. Yet, the only state that has even approached DOE with serious intentions to negotiate this agreement is the State of Washington.

   The old saying,"It takes two to tango" certainly applies in the case of C&C agreements. What efforts has your state made in approaching DOE on this matter?

4. Do you feel that the Mission Plan, as a document, meets the requirements of Section 301 of the Nuclear Waste Policy Act? Why or why not?

5. You insist on a complete restart of the site selection process, so as to find the best site. This is a little like driving across country to find the best restaurant -- how does one know when the best is found, and when does the search end? Don't you feel that this requirement is unrealistic and irresponsibly costly?

ANSWERS TO QUESTIONS SUBMITTED TO DELBERT DEVIN

1. It is not correct that I anywhere specifically talked about "excessive costs," but it is certainly true that I and other citizen groups support a national screening program (see Statement of Principles, p. 1, Recommendation 3). The Statement of Principles factually points out that the costs of the repository program will be astronomical (see page 3, X. Economics). To factually state the enormous expense of the program is a level of honesty that both DOE and the Congress must face. It is also true that money has been wasted in the current program--much of the text in the draft environmental assessments for Texas, for example, is incorrect and contractors have routinely been paid for shoddy work.

Efficiently spending the necessary money and finding the best possible waste disposal sites are not mutually incompatible goals. In fact, only by having a scientifically sound, publicly acceptable program can any waste sites be economically developed. I believe that the current DOE program will spend billions of dollars and still not find technically sound sites. To start over after years of work produce only inadequate sites will cost much more than doing the program correctly the first time.

Regarding the costs of restarting the site selection program, I believe that the recommendation for a feasibility study made by Mr. Frishman at your hearing is reasonable. DOE should conduct the feasibility study to determine the time and costs of doing a national screening program, as has been recommended by many states and citizen groups.

Finally, regarding "the ratepayers of this nation", I have not encountered ratepayers who believe that unsafe disposal sites and unsafe transportation methods should be used just to save money. I would again emphasize that the waste disposal program will be very expensive no matter how it is done. But if it is done right, the program can succeed; if it continues as DOE is conducting it, it will not succeed, and thereby will waste the billions spent.

2. It is clearly true, as I stated in my written testimony, that spanish speaking citizens of Deaf Smith and Swisher counties have had no real opportunity to participate in the Mission Plan or in any of the draft documents released by the DOE. As indicated by the fact that public participation in voting requires bilingual ballots in both counties, public participation on the waste issue by citizens of these counties also requires bilingual materials and opportunites for spanish-speaking people to participate in hearings.

The nine-square mile sites in Deaf Smith and Swisher counties were chosen in November 1984 and some of the affected landowners were first notified on November 30, 1984, which gave them no chance to participate in the DOE process prior to the draft environmental assessments. Furthermore, some of the affected land and mineral rights owners have still not been formally notified by DOE that their property is included within the site.

DOE's policy has been to not respond to public comments. STAND submitted comments on the DOE draft Area Geological Characterization Report and Location Recommendation Report in January and March, 1983, respectively. DOE refused to respond to those comments for over 18 months. As a April 17, 1984 letter from J.O. Neff, DOE's Salt Repository Project Program Manager (Attachment 1), stated at the end of the second paragraph, Mr. Neff was not sure that responding to such comments was "consistent with the intent of the Nuclear Waste Policy Act." The fact that DOE, after continued requests by STAND and the State of Texas, finally gave written responses to those comments over 18 months after receiving those comments in no way shows an interest in public participation nor the "real responsiveness" that your question states.

Many other examples could be mentioned as to DOE's non-responsiveness, including failing to provide documents requested, even under the Freedom of Information Act, for over a year. But as a further example of the fact that DOE does not respond to public input, Attachment 2 is a copy of a letter of December 9, 1983 by Wayne Wyatt, Manager of the High Plains Underground Water Conservation District No. 1, which documents a similar lack of responsiveness.

3. My written testimony provided a few of many possible examples regarding DOE not being honest and not living up to agreements. The fact that DOE and Washington could not reach a Consulation and Cooperation Agreement after months of negotiations again demonstrates that C&C Agreements at this time seem to be a waste of everyone's time. I am also aware that in the case of New Mexico, DOE only signed a C&C Agreement after the State of New Mexico sued DOE.

The decision to not begin C&C negotiations is widely supported in Texas. When Barry Gale of the DOE testified before the Texas Legislature's Joint House-Senate Study Committee on Hazardous Waste Disposal in Canyon, Texas on April 27, 1984, he also advocated that the State begin C&C negotiations with DOE so as to improve communications and receive responsive answers to questions raised by the State. Rep. Jim Rudd, Chairman of the Committee, responded, "why does the State of Texas have to enter into an agreement with the United States government to correspond with one another?" There has been no adequate answer yet to that question. But the exchange and the entire record of that hearing indicate why the State of Texas and its citizens feel that it is a waste of time to begin C&C negotiations at this time.

4. The Mission Plan does not meet the requirements of Section 301 of the Nuclear Waste Policy Act. I would generally agree with the deficiencies noted by representatives of the states and tribes and the Environmental Policy Institute at the hearing, as well as with the comments made by Southwest Research and Information Center in its written statement. I would also reiterate that the fundamental requirement of Section 301(a) that the Plan "shall provide an informational basis sufficient to permit informed decisions to be made in carrying out the repository program" has not been met. While a repository cannot be operational in 1998, the Mission Plan contains no discussion of what alternatives should be pursued since the date cannot be met.

5. Finding the best nuclear waste repository is not at all equivalent with finding the best restaurant! Following a nationwide search for sites in possible geologic media, and including sites that were previously eliminated for political, not technical, reasons such as the Salina basin, I and much of the public would have some confidence that the best available sites are being investigated.

Currently, DOE's goal is not to find the best site. As with such low goals it will never find a good site, let alone the best ones. As a country we do not settle for trying for less than the best when it comes to going to the moon or supporting our military. We should not settle for less than the best when it comes to siting a repository that can affect millions of people for literally thousands of generations.

As previously stated above under number 1, searching for the best site will ultimately cost fewer dollars than the current program will cost in investigating unsuitable sites. Moreover, the several million dollars required for such a search is clearly more cost effective than spending almost a billion dollars each in trying to characterize such clearly inappropriate sites as Hanford, Washington and the Deaf Smith or Swisher county sites.

Department of Energy
Chicago Operations Office
Salt Repository Project Office
505 King Avenue
Columbus, Ohio 43201-2693

April 17, 1984

Alice Hector and Don Hancock
Southwest Research and Information Center
P.O. Box 4524
Albuquerque, New Mexico 87106

Dear Ms. Hector and Mr. Hancock:

This is in response to your letters of March 2 and 23, 1984. The following responses pertain to actions requested on March 2 concerning the Permian Basin program and documents. During the consultation involved in Federal-state interactions regarding the repository studies conducted by my office, it was agreed that DOE would include state agency review comments in program documents when they are finalized. This was to assure the states that their comments were considered and to indicate how they resulted in changes to documents or the reasons they did not. Since, in the past, state reviewers consisted of state agencies, the issue of whether to include comments from citizens or citizen groups has not arisen.

In the letter from TENRAC signed by Mr. [illegible] on May 19, 1983, in which he transmitted comments about the Permian Basin Location Recommendation Report (LRR) he stated that "copies of the full text of all individual reviews are also attached and merit your careful attention...." In addition, he stated "We look forward to your responses as well as those of other state (emphasis ours) reviewers." In finalizing the LRR, all review comments were given careful consideration, and state review comments were appropriately responded to in the document's appendix and the LRR has been finalized. I will be pleased to provide you responses to your comments as you requested and to forward them upon completion. However, unless the state requests differently, we will continue binding only state agency comments and responses into documents. If the state did request that public comments and resolution of such comments be bound with the document, it would be necessary for my office to evaluate that request and make a final decision consistent with the intent of the Nuclear Waste Policy Act.

We do not believe it is necessary to defer approving the Texas [illegible]. The Location Recommendation Report is a final document; there are no plans to supplement it or to issue all or portions of it for further comment. The draft Identification of Sites in the Palo Duro Basin: Volumes 1 and 2 was transmitted for state review on March 21, 1984; my office supports the

[illegible]

[illegible]

[illegible]

[illegible]

The DOE participants at meetings are determined by the topic(s) under discussion and staff availability. Regardless of whether I or a Headquarters staff member attends each meeting, concerns of the public reach me and my superiors through discussions with my staff, trip reports, and summaries of questions posed at meetings. Notes are taken of issues raised for the record. Decisions, recommendations, or policies may or may not be made in a public forum, but any decisions are the result of long and careful deliberation with full consideration of public comment.

We will continue to consider suggestions from POWER and STAGE, but reiterate that it is DOE's responsibility, according to the Nuclear Waste Policy Act, to provide information to the public, in consultation with the State.

Sincerely,

J. O. Neff

J. O. Neff
Program Manager
Salt Repository Project Office

[illegible]

cc: [illegible]
[illegible]

[illegible]

HIGH PLAINS UNDERGROUND WATER
CONSERVATION DISTRICT NO. 1

2930 Avenue Q
Lubbock, Texas 79405
AC 806 762-0181

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December 9, 1983

Mr. J. O. Neff
Program Manager
NWTS Program
505 King Avenue
Columbus, Ohio 43201

Dear Mr. Neff:

Don Smith on my staff forwarded a letter he received from you dated November 29, 1983. In the letter you discussed future public information workshops in Texas using local people and agencies on panels and for presenting input data.

We would have no desire to be used and no desire to provide any credibility to the Department of Energy (DOE) especially considering DOE's failure to be truthful in their limited efforts to respond to questions submitted by the District or its representatives.

Mr. Smith attended the planning meeting in Amarillo as a result of his attendance at a state "public hearing" on Texas Department of Water Resources' rules changes, and not by prior request either formal or informal. I had no knowledge of the planning meeting until he returned home and reported on the meeting. Those public information meetings you have conducted in the past have provided very little substance and the local people are fed up with the continuous changes in players and the bureaucratic responses to legitimate questions.

For the record, we know the answers to the geologic and hydrologic questions I submitted to the DOE in June, 1983; those submitted by Johnny [illegible], one of our County Committeemen from Randall County, in May of [illegible] 1983; and those questions submitted in July, 1983 by Jim Conkwright, who is our Director from Hereford. The reason your agency will not answer the questions honestly is that the answers provide positive proof that the High Plains of Texas proposed sites are unsuitable for storage of nuclear waste material, and if you answered the questions honestly and truthfully on paper you could no longer justify study and consideration of the sites. We really do not mind the DOE spending money in our area on studies, but we can not help being concerned that your people may be so poorly qualified that they may not be capable of interpreting the data correctly and try to select one or both of the High Plains sites for an actual waste storage site. Should this happen, be assured we will use every resource available to us to stop you from destroying the area's limited fresh water supplies.

Yours,

A. Wayne Wyatt

A. Wayne Wyatt
Manager

THALIA M. DONDERO
CHAIRMAN

Board of County Commissioners
CLARK COUNTY BRIDGER BUILDING
225 BRIDGER AVENUE
LAS VEGAS, NEVADA 89155
702 383-3500

October 11, 1985

The Hon. Pete V. Domenici, Chairman
Subcommittee on Energy and Natural Resources
United States Senate
Dirksen Senate Office Building
Washington, D.C. 20510

Dear Senator Domenici:

Thank you for your questions regarding my testimony of September 12, 1985. At that time I expressed concerns about the involvement of local government in the repository selection program. In answering your questions, I will reiterate our concerns:

1) To what extent have your county and local officials sought support from your state executives and legislative branches in representing your views in their consultation activities with DOE in sharing grant assistance funds with local and county units?

   Clark County is indeed fortunate in having a state government that is responsive to the concerns of local communities. The State of Nevada has been generous in providing grant assistance to potentially affected communities; something I believe is unique. This has, in fact, enabled local staff and elected officials to attend seminars, etc. where it has become apparent that not only local communities, but states, have had difficulties in interjecting our respective concerns into the program. I will elaborate more on this in the next section.

2) Question 2 concerning local governments' defined role in the Mission Plan and the Nuclear Waste Policy Act:

   a) Mission Plan: We are, of course, gratified that the DOE has seen fit to incorporate some mention of local government in the Mission Plan. We do feel that this is an improvement over the draft document. We do not, however, find the emphasis given to local government that you allude to in your letter. Most of the references in the Mission Plan, for example, relate to one-way communications between DOE and the general public and local officials (e.g., briefings and educational programs). This is fine so far as it goes. We would prefer however, stronger emphasis on interrelationships between the DOE, the states and local communities as stated on Page 132. These types of activities in workshop settings will assist in determining the extent of impacts to a community and subsequent mitigation requirements. These are the actions that, heretofore, have been lacking in the program and the reason why I felt the need to emphasize this deficiency to Congress in my testimony.

To cite several examples where local input would have been valuable, one need only to examine the Yucca Mountain Environmental Assessment and other DOE document releases. Had the DOE taken the time to interact closely with local governments they would have decided to include Lincoln County, Nevada in the assessment; an area which could be directly impacted by rail shipments of nuclear waste. Had DOE been concerned about selecting transportation routes using local knowledge of conditions, they probably would not have produced a map depicting a possible transport route across Hoover Dam. Had DOE performed a thorough analysis of tourism in the Environmental Assessment they probably would not have stated that the proposed repository would not adversely influenced tourism on the basis of the information provided (see Environmental Assessment, Page 6-81, Conclusion).

It is these prior experiences that has led the County to sensitize the DOE, Congress and others to the need to strongly involve local governments in all phases of the program. We feel that this is appropriate given the potential adverse influence the repository can have on communities adjacent to it. If we have enhanced this sensitivity we have in fact accomplished our task. You can be assured, however, that we will be monitoring compliance with the statements in the Mission Plan and apprise the Senate Committee (as well as its House equivalent) and our Congressional representatives of shortcomings.

b) Nuclear Waste Policy Act: Yes, we are aware of Section 117(C)(5) which in a written agreement will specify procedures by which "the Secretary shall assist . . . units of general local government in resolving the concerns of local government . . . etc." This, unfortunately, is the only area in the law where local governments are specifically mentioned. The tone of your question seems to imply, "What else do we want?" We feel that local involvement should have been provided throughout the program and not beginning as the site characterization phase.

The law, we feel, would have been far more effective if directly affected local units of government (e.g., those that would be impacted by the project) were named as co-partners with states and Indian tribes. While we are extremely satisfied with the present State of Nevada program, a change of administration could, obviously, eliminate this close cooperation.

The assistance cited in Section 117(C)(5) (although it does state, "not limited to" those items specified) may not be able to totally resolve our concerns. A prime example would be in the area of transportation. Transportation issues are the responsibility of the Department of Transportation (DOT).

We are obviously concerned that high-level nuclear waste shipments may traverse urbanized Las Vegas. "Preferred" DOT routing scenarios will have waste shipments by truck utilizing Interstate 15, permitting waste shipments through the heart of our most densely populated area. Besides potential safety and welfare considerations, we have questions about the potential effect to the mainstay of our economy, tourism. We're doubtful that the Nuclear Waste Policy Act can assist Clark County and other communities with issues where DOE has no jurisdiction, although they are of extreme importance to local communities by reason of their impact potential. The provisions stated in Section 117(C)(5) may not be helpful to our community.

We trust we have adequately answered your questions and conveyed our concern. Should further clarification be required, do not hesitate to call me.

Sincerely,

BOARD OF COUNTY COMMISSIONERS

Thalia M. Dondero

Thalia M. Dondero
Chairman

TMD:sg

UNWMG
Utility Nuclear Waste Management Group
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Yankee Atomic Electric Company

November 6, 1985

The Honorable Pete V. Domenici
Chairman, Subcommittee on Energy
  Research and Development
Committee on Energy and Natural Resources
United States Senate
Washington, D.C. 20510

Dear Mr. Chairman:

I would like to take this opportunity to respond to the two questions you posed subsequent to my testimony before your Subcommittee regarding the Department of Energy's Mission Plan.

1. In your first question you asked for the Utilities to comment on the Subcommittee's view that unless the schedule allows appropriate time for procedural aspects of the program, the possibility of tangled litigation might further delay the program. We understand and share your Subcommittee's concern that the Nuclear Waste Program schedule allow appropriate time for all procedural aspects. The missed deadlines and schedule slippages which have become a rule for the Nuclear Waste Program, however, will not ensure satisfactory program development.

In our opinion, the only way to avoid tangled litigation is to reform procedures, particularly in the area of NRC licensing. Because repository licensing falls directly on the "critical path" it is incumbent on DOE and NRC to work closely to develop a licensing strategy flexible enough to achieve the statutorily mandated schedule. It is our firm belief that licensing reforms must be adopted if program schedules are to be met and convoluted litigation avoided. The Utilities recommend that:

- Close coordination between DOE and NRC must begin early in the site characterization and facility design phases to resolve licensing issues during the pre-application period. Such early resolution of licensing issues would also expedite subsequent formal licensing review.

A Program Administered by Edison Electric Institute

- Procedural and substantive licensing issues must be identified and resolved during the site characterization phase. NRC should be working to develop appropriate Branch Technical Positions, Regulatory Guides, Topical Reports, and even regulations to establish in advance technical criteria acceptable to the NRC staff.

- NRC should establish streamlined procedures for post-application review. We suggest NRC consider generic licensing of surface waste handling facilities and/or standard waste packaging. These components could be licensed in advance of the repository and, thus, avoid the complications of licensing proceedings for the repository itself.

- NRC must streamline the public hearing process in repository licensing. We suggest the early establishment of a Public Document Room in the vicinity of each characterized site to serve as an alternative to traditional discovery. We also recommend the revision of the threshold for admissibility of contentions to ensure only genuine issues in dispute are actually litigated.

- We continue to recommend that NRC issue a preliminary license for "low-power" operation and disposal, based on a conservative low heat loading on the geologic media through wider spacing of the waste canisters and disposal of only the oldest fuel. Such a preliminary license could also benefit the licensing proceeding by generating data to permit issuance of a final operating license with a greater degree of certainty.

2. In your second question you asked whether DOE's notice and comment procedures for cost allocation of defense wastes would satisfy our need to participate actively in the decision-making process. The Utilities feel strongly they must be afforded the opportunity to actively participate in the early negotiations surrounding the cost allocation decision.

We have discussed this situation with Mr. Ben Rusche. The Utility Nuclear Waste Management Group has offered to work closely with DOE to develop a reasonable and equitable cost allocation formula. We share the concern expressed by the National Association of Regulatory Commissioners, that the internal negotiations between the DOE Division of Defense Programs and DOE Office of Civilian Radioactive Waste Management may be merely an exercise in creative accounting to justify that the lowest possible cost be allocated to defense wastes. We are especially concerned because DOE's overriding interest may be to minimize the direct impact on its appropriated budget for defense activities.

The Utilities desire to be involved directly in the development of the cost allocation formula because we (and our customers) are the real parties of interest. It is our view that the opportunity to comment on DOE's proposal after it is published in the Federal Register is not an adequate substitute for face-to-face discussions and negotiations prior to the time that DOE has decided on its position.

We appreciate the continuing efforts by your Subcommittee to solicit input from the Utilities. We believe we have much to contribute to your understanding of the predominant issues surrounding the Nuclear Waste Disposal Program -- a program of vital concern to our electricity customers. We intend to continue our full cooperation with your efforts.

Sincerely,

James R Tomonto

James R. Tomonto
Chairman, High-Level Waste
  Management Group
Utility Nuclear Waste
  Management Group

ENVIRONMENTAL POLICY INSTITUTE

October 16, 1985

Hon. Pete V. Domenici
Chairman, Subcommittee on
Energy Research & Development
Committee on Energy & Natural
Resources
U.S. Senate
Washington, DC 20510

Dear Mr. Chairman,

Thank you for your letter of September 30 concerning my testimony on the Department of Energy's Mission Plan. Your letter asked me to respond to five questions regarding the Mission Plan and my testimony. Those responses are as follows:

1) Question 1 asked me to respond to your suggestion that it was entirely appropriate for DOE to "call" the proper interpretation of Sec. 114(f) of the Nuclear Waste Policy Act(NWPA) and chided me for overlooking the fact that so many other parties had attempted to create "after the fact" legislative history.

Response: I believe that there is a distinct difference between "interpretation" of the NWPA legislative history and the "creation" of new, "after the fact" legislative direction. I freely acknowledge that many of us have, in various forums, attempted to interpret the record, as developed by the 97th Congress, on this point. What I have objected to is DOE's often stated contention that the current 99th Congress will, by the simple fact that it receives the Mission Plan for 30 days, uphold DOE's interpretation of this and other issues. It is this new, non-legislative "legislation" that I object to and I think it sets a dangerous precedent for executive branch agencies to think that Congress's receipt of, or limited action upon, the myriad of reporting requirements routinely embodied in legislation constitutes a legislative concurrence.

While it may be appropriate for DOE to "call" the final interpretation of a federal statute directing its activities, DOE has seriously compromised its "right" to do so by the manner in which it agreed to a contrary interpretation with the NRC and then methodically reversed that agreed upon interpretation. DOE has given every appearance of adopting an intepretation, arrived at by DOE and NRC at the June 22, 1984 Commission meeting, solely for the purpose of gaining immediate Commission concurrence. I am deeply concerned by the appearance of an executive branch which believes that it may adopt statutory interpretations or reach formal agreements with independent regulatory agencies, such as the NRC, simply for the purposes of immediate convenience which are subsequently deemed not to be binding upon it.

2) Question 2 questions my contention that DOE is not bound by

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the NWPA to accept title to spent fuel in January, 1998. You state that my interpretation is inconsistent with Sec. 302(a)(5) of the Act which states that...

> "In return for the payment of fees established by this section, the Secretary, beginning not later than January 31, 1998, will dispose of the high-level radioactive waste or spent fuel involved...."

Your question goes on to state that this language means "that DOE must take title to the wastes in 1998 and dispose of them in some manner, whether it be interim storage or permanent disposal."

Response: The paragraph you quoted is only part of Sec. 302(a)(5); it is Sec. 302(a)(5)(B) to be more exact. It does not refer to transfer of title whatsoever, but only to when disposal is expected to begin. Transfer of title, which I think we would all agree is a prerequisite for disposal, is governed by the immediately preceeding subparagraph, Sec. 302(a)(5)(A), which clearly states...

> "(A) *following commencement of operation of a repository, the Secretary shall take title to the high-level radioactive waste* or spent fuel involved as expeditiously as practicable upon the request of the generator or owner of such waste or spent fuel..."
> (emphasis added)

Title transfer is predicated upon commencement of operation of the repository. It is also linked to the "practicability" of accepting that title. The point here is an entirely logical one. The DOE cannot accept nuclear waste for disposal if it does not possess the physical, practicable capability to do so. The "authorized program" is only for disposal in geologic repositories with a minimal amount of interim storage for emergency situations. DOE has no other means of accepting spent fuel for disposal under the authorized NWPA program than through commencement of repository operation.

I strongly disagree with the statement made in your question that DOE may "dispose" of spent fuel by placing it in interim storage. The NWPA specifically defines "disposal" in Sec. 2(9) and neither that definition nor the authorized program can accomodate "disposal" by interim storage.

3) Question 3 states that my testimony accused DOE of being "underhanded" in the way in which it addressed MRS in the Mission Plan and asks whether or not I believe that the congressional review of the MRS proposal will be adequate.

Response: My testimony made three points about the way in which DOE has addressed the MRS. The first point is that whereas Sec. 301 of the NWPA requires that the Mission Plan "provide an informational basis sufficient to permit informed decision making" DOE clearly does not possess this level of knowledge concerning the MRS nor is this level of information presented in the Mission Plan. DOE's promotion of the MRS concept, as an integrated facility, has simply been made in the absence of key information, such as even s rudimentary risk assessment. We therefore believe that DOE has failed fulfill the requirements of Sec. 301, and has engaged in a questionable policy making process by arriving at the conclusion before doing the research.

Second, we believe that the requirements of Sec. 301(b for the issuance of a draft Mission Plan and solicitation of comment from interested parties and other federal agencies is a central requirement for determining the adequacy of the Mission Plan under Sec. 301. We believe that Congress intended the comment process to be important and substantive. Because DOE dramatically revised the role, description, and timing of MRS after the release of the preliminary draft and draft of the Mission Plan, neither interested parties nor other federal agencies have had a meaningful opportunity to comment of the MRS proposal contained in the final Mission Plan. Those parties commented on an entirely different MRS concept. If the comment requirements if Sec. 301 are to be meaningful and substantive, the Mission Plan should be resubmitted for comment with the revised MRS concept.

Third, I questioned DOE's interpretation of Sec. 141 of the NWPA in the same light as I questioned DOE's interpretation of Sec. 114(f). In both cases, I believe that DOE's interpretation is at odds with the letter and intent of the NWPA. While Sec. 141 requires DOE to develop a plan for integrating the MRS into the authorized system, there is nothing in Sec. 141 which describes the design of the MRS, in particular Sec. 141(b)(1), which authorizes or even suggests that MRS could or should constitute an integrated receiving, packaging, and handling facility. Furthermore, we believe that the legislative history of the NWPA supports DOE's previous interpretation, contained in the draft Mission Plan that MRS study provided in Sec. 141 was intended to provide MRS as an option in the event that there were substantial delays in the repository.

We did not suggest that the Congress would not fully and responsibly review the DOE Mission Plan although we do believe that the failure of DOE to provide full information, that has been subject to review and comment by outside parties, prior to the submission of the plan to Congress will place an additional burden upon Congress to assure that all necessary information and views are gathered. As you know, Congress will be hard pressed in the second session of a Congress, in a major election year, with pressing budget and tax matters before it, to devote its full attention to an entirely new proposal of this nature.

4) Question 4 asked whether we were aware of the DOE request to NAS for a review of the DOE site selection program and whether that fulfilled are concern for independent review.

Response: We are aware of the DOE's 11th hour request to the NAS to review the site ranking methodology utilized in Chapter 7 of the Environmental Assessments(EA). First, this last minute review is extremely limited to one narrow, dissociated aspect of the EA's and does not constitute an independent review of the DOE site selection process as suggested by your question. Second, NAS is being brought in at a point in the process, the preparation of final EA's after the close of the public comment process, that can only taint the NAS review as part of DOE's effort to make its EA's "resistant" to litigation. Whereas we believe that NAS and other independent reviews are essential to a credible, successful DOE HLW program, this recent "acquiescence" by DOE does not constitute a commitment to seek such review of the DOE site selection program and may permanently compromise DOE's ability to gain such review.

5) The last question asked whether I believed that the Mission Plan meets the requirements of Sec. 301 of the NWPA.

Response: I guess I had better improve my writing and speaking style, because if there was one point that my written and oral testimony repeatedly makes it is that the Mission Plan does not fulfill the requirements of Sec. 301 to provide "an informational basis sufficient to permit informed decisions" as required. This is especially true concerning MRS and defense waste. The Mission Plan does not provide an adequate or substantive opportunity for comment by interested parties or federal agencies on key elements of the DOE program, such as MRS, a key requirement of Sec. 301. For these and other reasons articulated in our testimony, we recommended that the Mission Plan be remanded to DOE.

I hope that these answers are responsive to your questions. I want to thank you again for the opportunity to testify before your subcommittee and to commend you personally for your long and continued commitment to overseeing the DOE high-level waste program. As is often the case, we will not agree on all elements of the DOE program, but your interest and concern over DOE's implementation of the NWPA is acknowledged and welcomed.

Sincerely,

David Berick, Director
Nuclear Waste & Safety Project

NATIONAL CONGRESS OF AMERICAN INDIANS

[illegible]

[illegible]

[illegible]

[illegible]

[illegible]

[illegible]

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[illegible]

[illegible]

APPENDIX II

Additional Material Submitted for the Record

TESTIMONY OF DEL WHITE AND RON HALFMOON, NEZ PERCE TRIBE OF IDAHO, BEFORE THE UNITED STATES NUCLEAR REGULATORY COMMISSION

SEPTEMBER 6, 1985

Mr. Chairman, members of the Commission, we are pleased to have this opportunity to present the views of the Nez Perce Tribe, which has been designated an affected Indian tribe under the Nuclear Waste Policy Act with regard to the Hanford site, on the matter of whether section 114(f) of the Act requires the Department of Energy to conduct characterization activities at potential repository sites before making a preliminary determination of the suitability of such sites.

The legal issue presented by section 114(f) is complex and interesting, but does not lend itself to a definite answer. The Commission has available its own legal experts to dissect that issue, however, and undoubtedly will be presented with a large amount of legal research on the matter. In our view, the section is ambiguous at best. We wish to focus, therefore, on considerations other than the precise statutory construction of section 114(f).

We would note first that DOE seems to be reneging on a commitment made to this Commission and to the public that characterization would occur prior to any preliminary determination of suitability. As you well know, the Commission's concurrence - not advice, but concurrence - in the siting guidelines is required by the Act. Our reading of the Commission's Concurrence Decision of July 10 is that characterization must occur before any preliminary determination of suitability. In fact, the Concurrence Decision cannot be read any other way. If DOE did not agree with the Commission's explanation of the agreement reached in June of 1984, it should have said so. DOE's current position creates at least two significant problems.

First, it calls into question the validity of DOE's siting guidelines. Because the Commission must concur in the siting guidelines, and because DOE now intends to violate a specific term of the Commission's written concurrence, the validity of DOE's plan of operation is open to question. In fact, DOE has practically asked to be sued on the matter, and almost certainly will be sued.

Second, when NRC announces that DOE has agreed to something, and DOE much later denies that agreement, public confidence in the process - including the confidence of the Nez Perce Tribe - is shaken. The only way to minimize the inevitable controversy is to show the public that when DOE and NRC say a certain procedure will be followed, it will be followed. Shifting and contradictory interpretations and agreements undermine the credibility of both agencies and, therefore, diminish public confidence in the process.

From a policy perspective, we believe that characterization prior to preliminary determination is the more sound procedure. Congress must have wanted the preliminary determination to be a decision of some significance. And if the decision is a significant one, it obviously should be made only on the basis of the greatest possible amount of information. The process of characterization yields information and, therefore, should precede significant decisions whenever possible, including the preliminary determination. In this way, the protection of public health and safety is better served.

Finally, as a practical matter, the Commision and DOE will spare themselves a number of problems by agreeing that characterization will precede the preliminary determination. As we have noted, the existing situation invites litigation and is a demerit on the record of the program. Unlike many problems, however, these are capable of correction. If DOE and the Commission simply agree that characterization will precede the preliminary determination, the problems we have discussed will disappear and no new problems from such a decision are readily foreseeable.

We would be happy to respond to any questions you may have.

SOUTHWEST RESEARCH AND INFORMATION CENTER

BEFORE THE

SENATE COMMITTEE ON ENERGY AND NATURAL RESOURCES

SUBCOMMITTEE ON ENERGY RESEARCH AND DEVELOPMENT

STATEMENT OF DON HANCOCK

REGARDING DOE'S MISSION PLAN

September 12, 1985

P.O. BOX 4524 ALBUQUERQUE NEW MEXICO 87106 505 - 262-1862

Good morning, Mr. Chairman and members of the subcommittee. Thank you for this opportunity to testify.

My name is Don Hancock from Southwest Research and Information Center in Albuquerque, New Mexico. I am Director of the Center's Nuclear Waste Safety Project. In this capacity I am in regular communication with citizen groups, state officials, and concerned citizens from across the nation.

I will briefly summarize some of the major concerns that I have regarding the Mission Plan. In general, I believe that the Mission Plan for the Civilian Radioactive Waste Management Program (DOE/RW-0005, June 1985) is fatally flawed and is not a plan adequate to the achieve the goal of safe permanent disposal of nuclear waste.

A fundamental problem in the Mission Plan is that the 1998 deadline for repository operation cannot be met. By trying to force the program to meet unachievable dates, DOE appears motivated by factors other than technical excellence. Such a rush results in major technical problems and lack of data on site under consideration and creates further opposition to the program among state officials and citizens.

In light of this situation, the Congress should now begin serious consideration of what should be done with the wastes since a repository will not be operational in 1998.

While the issues that could be discussed are many, I will limit my comments to the schedule and the timing of the preliminary determination of site suitability required by section 114(f) of the Nuclear Waste Policy Act. These two issues are indicative of how DOE's program is based on DOE's whims and not science, logic, or the law.

The Schedule

During consideration of the Nuclear Waste Policy Act, DOE officials led Congress to believe that dates specified in the Act could be met. However, DOE was almost 18 months late in promulgating the guidelines required by section 112(a). The January 1, 1985 deadline to recommend 3 sites for characterization (Section 112(b)(1)(B)) will be missed by approximately a year. The July 1, 1989 date for for nomination of second round repository sites will be missed by 27 months, according to the Mission Plan (page 69).

The actions required to meet these deadlines are relatively simple and basically are under DOE's control, in contrast with the technical difficulties of actually identifying, characterizing, and constructing a repository; packaging and transporting the wastes; and meeting the requirements of citizens, states, the courts, and the Nuclear Regulatory Commission.

While this circumstantial evidence alone would clearly indicate that DOE will also miss its 1998 date, there is also concrete evidence to support this conclusion.

The Mission Plan's reference schedule for the first repository (page 59) "does not assume that the approval of the recommended sites is delayed by judicial reviews of the draft environmental assessments" (page 61); and assumes that "obtaining of permits and site preparation for salt, which has the most extensive permit requirements, are completed by July, 1987" (page 61). Those two assumptions are clearly unsupportable. Other assumptions are also questionable, including that adequate in-situ testing can be done as quickly as DOE projects (page 62), and that an adequate environmental impact statement and license application can be prepared with such limited information.

Judicial review of the EAs will certainly occur. Only the DOE could assume that it can adequately respond to the over 20,000 comments received on the poorly prepared draft EAs. The data necessary to do an adequate EA does not exist for any of the sites. For example, DOE has no site specific data for either the Deaf Smith or Swisher sites in Texas. No field work has been done in Mississippi for four years. The data used in the Utah EAs is based on one major borehole. Having reviewed the written comments from Texas, Mississippi, Louisiana, Washington, Nevada, and Utah on the draft environmental assessments, it is clear that there are fundamental problems with all of the sites and with DOE's data on each one of the sites.

DOE certainly could not complete permitting requirements in Texas by July 1987. The land at both Texas sites is privately owned and at least the entire nine square mile sites will have to be condemned prior to any permitting. At the Deaf Smith site there are dozens of landowners, including several who still have not been contacted by DOE, who will fight land acquisition. In Swisher County, the Swisher County Nuclear Development Rights Trust, representing dozens of landowners with over 10,000 acres of land, would have to approve land acquisition before DOE could even begin negotiations with the individual landowners.

After costly land condemnation battles covering several months or a few years, DOE will have to seek permits to construct the exploratory shaft and drillholes from the Texas Water Commission and High Plains Underground Water District. Given the fact that underground injection well permit process can take up to three years and given the fact that shaft sinking through the Ogallala and Santa Rosa aquifers has never been done, an extensive permitting investigation and hearing for several years will be required. Thus, the earliest possible date to begin site characterization would be 1990! And this is in the state where site ownership and control is supposedly easier than at Yucca Mountain and Davis Canyon! (Draft EA, page 7-122) If that is so (and I don't believe that DOE's rankings are credible on this issue), the problems at other sites are enormous. Clearly, the 1989 date to finish site characterization in salt in order to meet the 1998 waste acceptance deadline cannot be achieved.

In Mississippi, extensive state regulatory procedures would be necessary prior to initiation of site characterization. In Utah, both state and federal permits would be required, which would delay the beginning of site characterization for many months.

In summary, since no salt site can be characterized in the timeframe required in the Mission Plan, there are few options available.

1) DOE will never characterize three sites for the first repository;
2) Three sites will be characterized and the 1998 date will be missed;
3) DOE will attempt to ignore or pre-empt state law in order to proceed with site characterization.

Any of these options should be found to be in conflict with NWPA. If Congress of DOE tries to lessen the requirements of the NWPA, citizens and state officials would rightfully object. If the technical and legal requirements of the NWPA are met, then a repository cannot be selected by 1998.

Preliminary Determination of site suitability for a repository

The DOE Mission Plan's timing for the preliminary determination of site suitability required by Section 114(f) of the NWPA is clearly not supported by the Act's legislative history and is in clear conflict with the position taken by the NRC, states, and virtually all non-nuclear industry commentors. If DOE's position is accepted, it indicates that site characterization need not occur for DOE's decisionmaking. Although DOE's data in the draft EAs is clearly inadequate -- in the case of Texas there is no site specific data -- yet DOE maintains that "no data beyond those presented in the draft EAs are needed to support the recommendation decision" (Mission Plan, Vol. II, p. 125). Since under DOE's schedule the preliminary determination would be made at the same time as the recommendation for site characterization, DOE believes that no site characterization data is necessary in order to determine that its proposed sites are suitable.

DOE is incorrect about the timing. The only reasonable position is for DOE's preliminary determination to be made after site characterization. The final determination of suitability must be made by the NRC during its licensing process.

Both of these issues are fundamental to the success of the waste program. DOE's schedule and preliminary determination are clearly not technically or publicly acceptable. If DOE proceeds as the Mission Plan says, the program will be brought to a total halt by the courts or citizen opposition, or DOE will push ahead despite the opposition and pick a site that is virtually assured of failing -- with resulting major public health and safety impacts.

I begin that Congress and DOE should seriously re-think the program outlined in the Mission Plan and make the fundamental changes necessary to comply with the act and scientific practice, both of which must happen before public confidence can be achieved.

Thank you again for allowing me to testify.

State of South Carolina

Office of the Governor

Richard W. Riley
Governor

Post Office Box 11450
Columbia 29211

September 13, 1985

Senator Peter V. Domenici
Subcommittee on Energy Research and Development
Senate Energy Committee SD317
Washington, D. C. 20510

Dear Senator Domenici:

Enclosed you will find a copy of the testimony which I was unfortunately not able to present in person at your Subcommittee hearing on September 12th. I very much appreciate the opportunity to submit this testimony in writing.

Thank you for your continued efforts to enable the presentation of information on nuclear waste issues. I look forward to working with you in the future.

Yours sincerely,

Dick Riley
Richard W. Riley

cc: South Carolina Congressional Delegation

U. S. Senate Energy Committee
Subcommittee on Energy Research & Development
September 12th, 1985
Governor Richard W. Riley of South Carolina

I. SUMMARY

The State of South Carolina has several concerns regarding the recently released Mission Plan; however I shall focus my remarks today on the proposed Monitored Retrievable Storage facility.

During the three and a half years that the Nuclear Waste Policy Act has been law, the Department of Energy (DOE) has been proceeding, albeit with some delays in its schedule, with its responsibility to establish a permanent repository for the disposal of this country's high-level nuclear wastes.

As an adjunct to its responsibility, the recent Mission Plan puts forward a new program objective. A Monitored Retrievable Storage (MRS) facility will presumably relieve utility responsibility for spent fuel storage in 1996, two years prior to the most optimistic current plans for the opening of a permanent repository. The MRS would also offer a proposed "integrated packaging and handling system" which would accomplish the primary function of the MRS: the repackaging and consolidation of most spent fuel before it is permanently emplaced in a repository. This large-scale MRS facility, if approved by Congress and successfully licensed, would mark the beginning of an unnecessary and expensive large-scale federally sponsored temporary storage program for civilian nuclear wastes. Cheaper alternatives for the storage of spent fuel would be forsaken. Furthermore, the MRS proposal could be expected to divert DOE attention from the permanent repository program which DOE is charged by law to implement.

II. SOUTH CAROLINA EXPERIENCE WITH NUCLEAR WASTE STORAGE

South Carolina first became concerned about federal plans for temporary storage of civilian spent fuel in the 1970's. One of the proposals put forward during that decade was that spent fuel be stored "away from reactors" at federally owned AFR sites; one of the proposed AFR sites was in South Carolina.

South Carolina has for 35 years been the host for temporarily stored liquid high-level defense nuclear wastes at the Savannah River Plant (SRP). An intense, bipartisan effort of Energy Secretary Edwards, Governor Riley, and the South Carolina Congressional Delegation was required to finally secure federal funds for the Defense Waste Production Facility (DWPF) which is now being designed and constructed at the SRP. This facility, the first of its kind in the United States and the largest in the world, will solidify defense wastes into a glass form and encase the wastes in special casks. These casks will ultimately be shipped to a federally operated repository, where the wastes will be buried thousands of feet underground.

Because of the decades-long problem in securing federal commitments to permanently care for the SRP defense wastes, South Carolina has repeatedly urged the DOE to cease emphasizing temporary storage of commercial wastes at any federal facility. South Carolina is among those fearing that DOE's reordering of priorities to emphasize temporary storage facilities at an MRS would divert efforts away from the goal of permanent disposal. I, in my capacity as Chairman of the South Carolina Nuclear Waste Consultation Committee, have signed six letters during the last two years to the Secretaries of Energy expressing this concern.

III. THE IMPORTANCE OF THE YEAR 1998

From the time of the earliest Congressional hearings, the leadership of the Office of Civilian Radioactive Waste Management has repeatedly stated that, although the schedule defined in the Nuclear Waste Policy Act (NWPA) is important, the quality of the work product is more important than the schedule. South Carolina has wholeheartedly supported that DOE position. However, the MRS program, a major programmatic diversion, is now under serious consideration; one of the reasons put forward by DOE for the MRS program is a legal commitment by DOE to receive spent fuel from utilities in 1998.

There are many dates specified in the NWPA. The repository siting guidelines, environmental assessments, defense waste plans, and numerous other projects are all to be developed, and each with a specific delivery date. The NWPA mentions the year 1998 only one time, in the Section which describes the Nuclear Waste Fund, not in the Section on MRS. The NWPA states that "in return for the payment of fees..beginning not later than January 31 1998, (the DOE) will dispose of the high level radioactive waste or spent fuel.." If the words had been "accept" or "store" wastes, the present MRS program proposal might be valid, but the NWPA clearly defines "disposal" as emplacement in the repository with no foreseeable intent of recovery.

In fact, during the first 33 months of the NWPA no important dates specified in the NWPA have been met. Some of these dates were not met for very good technical reasons, others because of inter-agency problems, and some for the most partisan of political reasons. The Mission Plan and recently released Program Decision Schedule both state that the repository program as a whole is on schedule if there are no serious technical or legal challenges to DOE activities. Even if there is delay in the repository program, that would not necessarily be sufficient basis for the establishment of an MRS. Thus the MRS appears to be an unnecessary element of the DOE program which risks billions of dollars of the Waste Fund, would cause unnecessary DOE staff efforts, and could easily compromise the goal of establishing a repository.

IV. CRITIQUE OF THE DOE MONITORED RETRIEVABLE STORAGE CONCEPT

South Carolina anticipated that DOE's stated need for an MRS would be based on lack of affordable utility options to store spent fuel at reactor sites.

South Carolina anticipated that the feasibility of MRS would relate to political support or opposition during the licensing phase, which is likely to be tied to a public perception of whether or not the MRS would in fact be "temporary" and whether or not the repository would be available for spent fuel disposal early in the next century. In addition, the political feasibility of MRS was anticipated to be dependent upon its cost and the manner in which DOE would plan to charge utilities for the storage of their spent fuel. The NWPA clearly requires the utilities which benefit from MRS to pay for its costs. The technical feasibility of MRS was not anticipated by South Carolina to be at issue. As I wrote to Secretary Herrington last June, "The feasibility of temporary storage of nuclear wastes has never been questioned; temporary storage has always been this country's policy by default."

South Carolina's anticipations were inaccurate.

In projecting the so-called need for MRS, the DOE has neglected to consider any recently demonstrated utility management techniques such as extended burnup of fuel and on-site dry cask storage, even though these particular techniques are now undergoing licensing review. In addition, sophisticated new pool expansion opportunities have been explored and implemented by some utilities, on-site rod consolidation has been accomplished with mixed success, and expanded inter- or intra-utility transshipments have been negotiated. Other spent fuel management techniques cannot be ruled out for future potential use.

The DOE rationale of anticipating that none of these techniques will be of future use is puzzling. Each of these techniques increases utility opportunities to store spent fuel and minimizes the role of federal intervention in spent fuel storage. There are many indications that the proposed MRS option is more expensive and more complicated than the utility options which would be foreclosed by the MRS.

It is important that economic data supporting a proposal which would recommend MRS be rigorous so that Congress, other public policy planners, and utilities can make an informed decision to chose or not chose the MRS storage option. At this time it appears that the stronger utilities are expected to subsidize the weaker utilities, and there is absolutely no incentive for efficient or innovative utility management of spent fuel.

The "need" for rod consolidation is, inappropriately, the bulwark of the MRS proposal. Rod consolidation experience to date is with small quantities of rather old spent fuel. Nevertheless DOE has chosen to assume that there will be no problems in moving toward mass consolidation of fresh spent fuel. Upcoming demonstration projects may support a commitment to large-scale rod consolidation as a waste management tool, or may raise serious questions regarding technical design and operations, employee exposures, wastes generated, or economic viability. Information based upon experience is required before an analysis of rod consolidation costs can be weighed against benefits to repository operations.

The Mission Plan claims that an MRS as part of an "integrated system" will eliminate the need for construction and licensing of packaging and handling facilities at the repository. This assurance is made despite the lack of facts or decisions regarding the management and/or consolidation of damaged fuel rods, and whether or not shipments of fuel from reactors near the repository should be diverted to the MRS.

The Mission Plan describes the MRS as the planned method for receiving spent fuel beginning in 1996, rather than the normally anticipated 1998. The Mission Plan states that after the MRS is full (apparently at approximately 15,000 metric tons, but perhaps at another capacity) spent fuel would be stored at utility sites. This new DOE plan is a reordering of the priorities established in the NWPA, which is that the utilities are to be responsible for storage of spent fuel until the repository is available, and the MRS is a back-up option in case of serious repository delays.

The possibility of little or no near-term growth of the nuclear industry, in conjunction with innovative fuel management techniques, should be actively recognized in the Mission Plan. Anticipation of a "low-growth plus innovation" scenario could save tens of billions of dollars in MRS construction, repository, and utility operating costs.

Few of us can imagine a strong nuclear industry which lacks a permanent repository for its wastes. Years ago the Congressional Office of Technology Assessment targeted public confidence as the most critical factor in establishing a permanent repository. Few of us would disagree with that conclusion. If the nuclear industry is to survive its present doldrums it will have to develop public confidence through the design, sale, and efficient performance of light water reactors; the establishment of a repository for the disposal of industry wastes is equally important to public confidence.

V. CONCLUSIONS

DOE is now 3½ years into a 40-year permanent repository program. The Mission Plan should emphasize repository siting and planning activities, with careful attention to rigorous technical processes and full communication with parties which must be involved to establish successful implementation of the Nuclear Waste Policy Act.

If the repository experiences serious delays, the MRS can be actively considered on the basis of specific factors of need, when more information is available concerning the location and geologic media of the first repository. At that time we should understand rod consolidation, extended fuel burnup, and various cask storage opportunities, as well as other spent fuel management options.

At this time insufficient information is available to justify the need for an MRS. In fact, the multi-billion dollar MRS as recently proposed may become irrelevant to developing repository operations.

While it is important that the Office of Civilian Radioactive Waste Management programs maintain a rigorous schedule, the year 1998 is no more binding than any of the other dates stipulated in the NWPA; the DOE task is to establish a suitable repository, and the schedule specifies 1998 as the target date for repository operations. To divert attentions away from that important task is an unnecessary excursion we cannot afford to undertake.

The Manhattan Group

DONALD F. X. FINN
MANAGING DIRECTOR

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September 18, 1985

Subcommittee on Energy and the Environment
Committee on Interior and Insular Affairs
U. S. House of Representatives
Washington, D.C. 20515

Re: Review of DOE's Final Mission Plan
for the Civilian Radioactive Waste
Program dated June 1985

Gentlemen:

Please permit me to add to my comments submitted to your September 13, 1985 Hearing.

The Mission Plan fails to present any comprehensive program for insuring liabilities arising from nuclear waste accidents at power plant sites, at processing sites, during transportation, or at repositories.

The DOE has reportedly informed corridor and potential repository States that they will liable for any role they may play actively or passively (e.g., "negligently") in transportation accidents and thus attempts to shift liability from the Federal Government once it takes title to nuclear wastes from utiltiies to State and Local communities and officials. This is outrageous and unfair.

The suggestion that the NWPA Nuclear Waste Fund be used to pay such liabilities is unacceptable. That Fund is created from a special tax imposed by the NWPA on nuclear kwhs and must be paid by ratepayers whether they be State Governments, State facilities, Local facilities, businesses or homeowners.

It would be unfair to have ratepayers pay for the mistakes of utilities, for the negligence or incompetence of DOE contractors or officals.

The DOE Mission Plan is obviously inadequate in failing to address liability and insurance issues. We hope you will see to it that these issues are promptly addressed in depth and are resolved to the satisfaction of State Governments and Indian Tribes.

Sincerely yours,

Donald F. X. Finn

Donald F. X. Finn

P.S. why should ratepayers be liable for Defense waste accidents?

September 10, 1985

STATEMENT OF DONALD F. X. FINN, A CITIZEN OF MISSISSIPPI, IN RESPECT OF THE CONGRESSIONAL REVIEW OF THE U. S. DEPARTMENT OF ENRGY'S JUNE 1985 "MISSION PLAN FOR THE CIVILIAN RADIOACTIVE WASTE MANAGEMENT PROGRAM."

1. The Nuclear Waste Policy Act (NWPA) requires DOE to give Congress 30-days to review its proposed Mission Plan. In my opinion, it is essential that Congress review and take action on that Plan within that 30-day period so that DOE cannot claim that Congressional inaction is tantamount to "approval" of its Plan.

2. The Congress should be aware at the outset that both the DOE and the NRC have severely restricted public comment and imput on the DOE's Siting Guidelines, Environmental Assessment's and Mission Plan. Indeed, the DOE has refused to adequately fund State reviews and studies so that the impacted States could undertake a reasonable review and develop comments on the DOE's plans and programs.

3. Congress is already aware, I am sure, that all of the DOE's nuclear waste disposal programs are funded via a special TAX imposed on ratepayers automatically by the NWPA. This TAX is collected automatically by the public utilities which own and operate nuclear power plants from individual and business ratepayers. Congress should be particularly aware that the DOE's "plans" require funding by taxpayers-ratepayers. The utilties only collect the tax from those who must pay it or have their electrical service cut-off. The magnitude of the DOE's program in terms of projected costs must be carefully reviewed.

4. A fatal flaw in the DOE's Siting Guidelines and the NRC "concurrence" therein (required by the NWPA), is that they fail to provide for an independent peer review program of techincal programs and data interpretation.

   The U. S. GAO has concluded that "The current (DOE) waste management program has no consistent peer review process which could subject DOE's technical analyses to future challenges and revisions, especially given States' concerns about DOE's application of the siting guidelines." GAO/RCED 85-27, Jan. 10, 1985, p. 26.

   The DOE's Mission Plan (p. 161) incredibly proclaims that "The ultimate peer review of the program will be provided by the Nuclear Regulatory Commission." This hardly constitues an independent scientific peer review program in which the public will have confidence, and as the NWPA clearly states the confidence factor of the public is the bottom line. Congress should press the DOE on its proposed peer-review process and require it to be clearly in place and subject to public participation and review.

The DOE has consisently assured the public that "all data and decisions" involved in operating its Mission Program "are subject to review by peer review groups" as part of its commitment to both an open technical review process and to a public information program.

In my opinion, the public has yet to see such reviews or the results thereof and lacks confidence in DOE's 'program' for future reviews. Cf. NWPA 111 (b)(1),(2).

Since the NRC is charged with reviewing the "technical credibility" of the guidelines (ONWI-519, p. 15, Nov. 1983) its failure to require that the guidelines set forth a concrete peer review program susceptible of independent anaylsis and review, is a critical flaw.

5. The DOE states that the Mission Plan "is not intended" to provide details on its "research, development, and demonstration plans." (Vol II, p. 236). Indeed, the DOE has simply not come to grips with the fact that at the Richton Salt Dome in southern Mississippi, millions of tons of salt will have to be mined and stored ABOVE-GROUND and somehow disposed of. DOE has variously proposed to dump the salt in the Gulf of Mexico, sell it into the salt market (already depressed by foreign imports), or ship it to empty salt mines!

The simple fact is that over the past 50 years southern Mississippi has been severely impacted by the force of 8 brutal hurricanes. That, as they say in the businessworld, is a trend.

It should be umderstood that the community of Richton, Mississippi, a neighboring National Forest and Camp Shelby all stand to be adversely impacted by any mining operations at Richton Dome. Land values in the area have already been impacted and community concerns enhanced. Camp Shelby is a vitally important military post. Recently, it accepted 4500 refugees during the hurricane could have received 8,000. It can presently handle 10,000 military (91,000 military trained there during 1984) and upgrading plans are under consideration. Camp Shelby is a major mobilzation center for the 2d Army. It is used year-round for National Guard, Army reserve and active military training. Three armour brigades annually train there. Military from Mississippi, Alabama, Kentucky, Tennessee and South Carolina will be using it, as well as Louisiana military on weekends. Artillery (155mm-8inch) grounds are activiely used there as is an air-to-ground bombing range (used by the Gulfport Training Station). The forest, water, and mineral resources of the area are also in danger of being adversely impacted. It should be noted that the DOE has denied adequate funding to the State of Mississippi to conduct the studies it believes are necessary to review DOE's plans.

6. DOE states that it "intends to recommend not fewer than three sites for characterization." Vol. II, p. 127.

   At issue is whether DOE intends, as is reported, to recommend that the Richton Salt Dome be characterized in addition to the first three sites (Texas, Utah, Nevada or Washington).

   The cost of such characterization alone is monumental. Congress should carefully review with DOE exactly what its characterization program is and the justification therefor.

7. The characterization, construction and operation of a nuclear waste repository will be novel in conception, mammoth in sheer physcial scope and cost (to ratepayers not the DOE or utilities), and most importantly, potentially dangerous to public health and safety. We do not believe that the DOE has gained public confidence in its program. To the contrary, DOE has kept the public at arm's length and from a meaningful and real participation in its ongoing planning process which seemingly has an inevitable course. Nothing less than a Congressional overhaul of the site selection process and the NWPA itself is in order. The issue of when site suitablity decisions can be made is hotly debated and Congress should settle the matter by a clarifying amendment to the NWPA.

8. Because the DOE's Siting Guidelines fail to establish objective standards and mechanisms for reviewing and double-checking its judgements regarding site suitability, the site selection process todate has been nothing but a "hollow ritual" in which the public lacks confidence. It has been used as a sophiscated technique for avoiding informed public comment on important issues and concerns. We trust Congress will use its oversight functions to remedy this situation. As we view the DOE's June 1985 Mission Plan it does not meet the November 5, 1984 comments of the National Research Council that the draft Mission Plan "does not adequately reflect the major uncertainties still to be resolved" which must be specifically acknowledged in order to avoid disruption at a future date.

Donald F. X. Finn

Donald F. X. Finn
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United States Senate
COMMITTEE ON APPROPRIATIONS
WASHINGTON, D.C. 20510

August 23, 1984

Honorable Donald P. Hodel
Secretary of Energy
Washington, D.C. 20585

Dear Mr. Secretary:

Thank you for providing my office with a copy of the draft report of "An Evaluation of Commercial Repository Capacity for the Disposal of Defense High-Level Waste." This report has been reviewed by my office and the following comments are provided in the interest of improving the evaluation and conforming the evaluation to the intent and letter of the law.

The evaluation did not conform to the Nuclear Waste Policy Act of 1982 in that the evaluation failed to consider the second nuclear waste site developed under Subtitle A of Title I of the act, and did not evaluate the use of a Defense site for storage of civilian wastes. This evaluation is important because the option of developing a repository near one of the existing Defense storage sites, perhaps in the same Defense reservation, may be the most favorable alternative. The proximity to existing Defense storage would reduce transportation and packaging costs. Public acceptance may be easier to obtain from a citizenry that is already accustomed to handling nuclear waste.

I am aware of certain restrictions contained in the law regarding the Waste Isolation Pilot Plant site, but it is recommended that this site should also have been included in the evaluation as a possible repository site for analysis purposes, along with the other interim high level radioactive waste management sites.

It would be greatly appreciated if you would include these recommendations in your final evaluation.

Sincerely yours,

John C. Stennis

JU1655

JOHN C. STENNIS
United States Senator

JCS:jlw

U. S. DEPARTMENT OF ENERGY
CHICAGO OPERATIONS OFFICE
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DOEFACTS:

CRYSTALLINE REPOSITORY PROJECT REGION-TO-AREA SCREENING METHODOLOGY

The U.S. Department of Energy's Crystalline Repository Project Office issued its draft "Region-to-Area Screening Methodology" document today for state comment and review. This document describes the process that will be used to narrow the geographic focus from large regions to smaller areas in the studies to identify potential crystalline rock sites for the nation's second nuclear waste repository.

The Crystalline Repository Project is part of DOE's program mandated by the NWPA of 1982, which requires DOE to site, construct and operate geologic repositories for the disposal of spent nuclear fuel and high level waste from commercial reactors. Potential sites have been identified for the first repository in Washington, Nevada, Utah, Texas, Louisiana, and Mississippi.

The purpose of region-to-area screening is to narrow the number of rock bodies within the 17 crystalline states of the North Central, Northeastern, and Southeastern Regions to determine which areas will be studied in more detail during the area phase. The region-to-area screening process is designed to use regionally applicable data to identify areas most suitable for more detailed investigations. Subsequent field studies will determine if these areas actually contain sites which are potentially suitable for nomination and detailed characterization.

The region-to-area screening methodology was developed to incorporate:

- A systematic approach which has a logical progression of steps that indicate a trackable process including input from state representatives and peer review groups;

- A consistent approach including equitable treatment of all 17 crystalline states in the screening process through the use of a reasonably consistent regional data base and sensitivity analyses. Sensitivity analyses improve technical defensibility of the approach and the results;

- A comprehensive approach which uses regionally applicable disqualifying factors and screening variables in compliance with the DOE Siting Guidelines for identification of potentially acceptable sites for nuclear waste repositories.

The region-to-area screening methodology consists of a three-step process:

- Step 1 - This step directly applies appropriate disqualifying conditions specified in the DOE Siting Guidelines. This step will eliminate certain land units and rock bodies or parts of rock bodies from any further consideration. Disqualifying conditions to be used are:

  - Federally Protected Lands - components of the National Park System, National Wildlife Refuge System, National Wilderness Preservation System, and the National Wild and Scenic Rivers System;

  - Research Natural Areas of National Forest Lands;

  - State-Protected Lands - Comparably significant to federally protected lands, state protected lands, which are dedicated to resource preservation and were established prior to the enactment of the NWPA;

  - Population Distribution and Density - highly populated areas and areas of 1,000 or more persons per square mile;

  - Hydrologically Significant Natural Resources - rock and mineral resources greater than 100m in depth.

- Step 2 - This step applies to potentially adverse and favorable conditions specified by the DOE Siting Guidelines as scaled regional screening variables to identify the most suitable rock bodies/candidate areas that warrant further analysis in subsequent screening phases. Individual weights are associated with each variable in Step 2 to assign a relative importance to the variables and to help discriminate the most suitable candidate areas from alternate points of view on the relative importance of the variables. Step 2 screening variables are:

Rock mass extent
Major ground-water discharge zones
Rock and mineral resources
Seismicity
Quaternary faulting
Postemplacement faulting
Proposed Federal-protected lands
Population density
Proximity to existing Federal-protected lands
Proximity to State-protected lands
National forest lands
State forest lands
State wildlife lands
Designated critical habitat for threatened and endangered species
Wetlands
Surface water bodies
Proximity to highly populated areas

- Step 3 - This step (sensitivity analyses) is designed to accomplish four major objectives. The first is to explore the implications of modifying the scales of Step 2 variables in the selection of candidate areas. The second is to prepare summary composite maps derived by utilizing different sets of weights for the Step 2 variables. The third is to evaluate the effects of using different indices of aggregate favorability (e.g., the geometric mean instead of the weighted average). The fourth allows further differentation by incorporating other geologic factors based upon available rock-body-specific data. The geologic factors to be incorporated are:

  Thickness of rock mass
  Thickness of overburden
  State of stress
  Ground-water salinity
  Ground-water resources

The main body of the Document describes the Region-to-Area Screening Methodology which resulted from extensive consultation, including three workshops, with the crystalline states. Section 3.2.3 of the Document describes the proposed state involvement in the establishment of different sets of weights to be utilized in region-to-area screening.

Appendix A of the Document explains how DOE considered the comments received from the crystalline states following each of the workshops. Appendix B summarizes, by category, the proposed treatment of state protected lands in region-to-area screening.

xxx

FOR FURTHER INFORMATION

Dr. Sally A. Mann, Manager, CPO
Dr. Paul K. Kearns, Chief, Site Evaluation Branch
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SEPTEMBER 1984

Paul Gilman
FYI
Rob Odle
6/13

Uranium ✓

Meltdown

A government report on Australia's uranium industry is about to go to the prime minister, Mr Bob Hawke. It is sure to cause ructions inside the governing Labor party. If it recommends the opening of new mines, the party's left wing, which opposes uranium exports, will be cross. If it does not, Mr Hawke and the resources and energy minister, Mr Peter Walsh, who want uranium production to be increased, will be embarrassed.

Before the digging has even started, however, Australia's new mines are a nightmare for the world uranium market. They would account for the biggest slice (10%) of the 50,000 tonnes of capacity that might be added to world uranium production over the next five years. But uranium is already in an unparalleled glut: between four and five years' worth of supplies are now stacked up at power stations around the world. Prices of uranium oxide have fallen from over $40 a pound in 1980 to only $17.50 now.

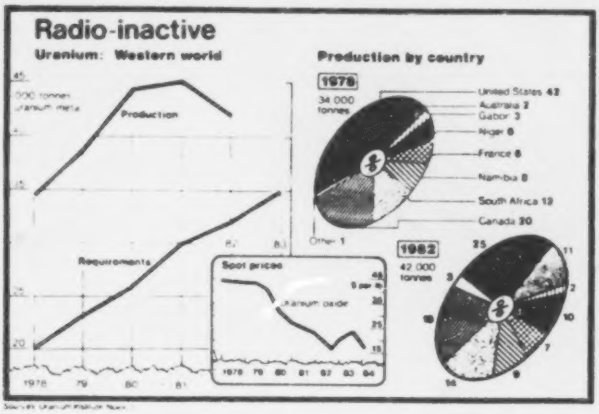
A lot of mining companies thought that the world would rely more on nuclear power after the 1973 oil price rise, but environmentalists stopped this from happening. Since it can take up to 10 years for a new mine to start producing, many of the projects planned then are only now yielding ore. Is the uranium industry, already working at only 76% of capacity, facing disaster?

Not as a whole, but some mines are surviving at the expense of others. The recent fall in demand has quickened a shift from older, underground mines to new, open-cast ones which often cost only half as much to operate. The beneficiaries of the shift are Canada (where big new deposits have been found in Saskatchewan) and Australia (if Mr Hawke has his way).

The big loser is the United States. Its uranium output declined from 14,000 tonnes in 1978 to 5,000 tonnes last year. America's share of the world market fell from 40% in 1978 to less than 25% in 1982, and is now smaller then Canada's and South Africa's.

Most of America's mines are small, high-cost operations, but that is not the only reason why they are being driven out of business. American electricity utilities rely on the spot market for buying their uranium. Fine for the miners when prices are rising, but the slump in prices means lower earnings almost immediately. In other countries, uranium producers commonly have 10-year contracts to supply utilities at fixed prices.

The price drop has been so sharp that some new mines have failed, like the Beisa mine in South Africa, which opened in 1982 and was for a while the world's second biggest producer. Beisa had unusual problems: other South African mines produce gold as well as uranium so their costs are spread. South African uranium producers have announced that they will produce 14% less uranium this year than last year's record 7,000 tonnes. Even Rio Tinto-Zinc's giant Rossing mine in Namibia is running at under 90% of its 5,000-tonne capacity.



Radio-inactive

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Mississippi Environment Management Organization
Comments on the Department of Energy Mission Plan
Submitted to:
Chairman Domenici
Senate Subcommittee on Energy & Research &
Development of Committee on Natural Resources
September 12, 1985

The Mississippi Environmental Management Organization would like to submit the following comments to Congress on the Mission Plan. In reference to the 30-day Mission Plan review deadline, Congress must take action immediately. Congress should further examine carefully the assertion by the DOE that "all data and decisions" involved in operating its Mission Program "are subject to review by peer review groups" as part of its commitment to both an open technical review process and to a public information program.

The Mission Plan does not satisfy the mandate of the Nuclear Waste Policy Act of 1982 which is to identify unresolved technical issues and those problems which impede implementation of the Act. We perceive the following problems:

I.) The public feels the DOE has failed to establish objective standards and mechanisms for reviewing and double-checking its judgments, thus has no confidence in the program.

There can be no public confidence in the nuclear waste program when DOE states the town of Richton, Miss. is two miles from the Richton Salt Dome when in fact one-third of the town is situated over the dome. The Mission Plan further states the town of Richton "lies adjacent to the boundaries of the control area" (pg. 357). The Richton site is unquestionably proximous to significant population concentrations and should therefore be disqualified in accordance with the population strictures established in the Nuclear Waste Policy Act of 1982.

II.) The socio-economic impacts are so complex that they cannot accurately be predicted.

The Mission Plan statements relative to socio-economics bear little resemblance to the caricature of socio-economic activities actually undertaken by DOE. The Mission Plan purports

". . . it is of the utmost importance that the potential for socio-economic impacts be assessed in a thorough and timely manner, with adequate planning to avoid, minimize, or mitigate any negative impacts." (pg. 137) Yet, funding is denied to the state of Mississippi to accomplish this. No creditable mechanism to avoid, minimize, or mitigate negative impacts has been suggested. There is a pronounced inclination on the part of the Dept. of Energy expressed in the Mission Plan to evade socio-economic issues. Nor do they avail themselves of accumulated social science expertise. There is flagrant denial of the extent of likely negative impacts, yet possible positive impacts are emphasized. The nearby National Forest, water, and mineral resources of the area are also in danger of being adversely affected. Land values in the area have already been impacted.

III.) Camp Shelby, a vitally important military post, stands to be adversely impacted by any mining operations at Richton Dome.

Recently, Camp Shelby accepted 4500 refugees during Hurricane Elena. It can presently handle 10,000 military personnel (91,000 military personnel were trained there during 1984). It is used year round for National Guard Army reserve, and active military training.

Camp Shelby has been officially designated as a major mobilization center for the 2nd Army (of which there are only four) by the U.S. Secretary of Defense. Camp Shelby has been further designated as the National Guard Fielding Site for the M-1 Tank and the Bradley Fighting Vehicle. The C.S. Air-2-2 Ground Bombing Range is actively used by the U.S. Air Force, the U.S. Navy, and the Air National Guard. Major upgrading plans have been approved. Air space over Richton and Cypress Creek Domes are restricted from commercial use.

IV.) The subsurface hydrology cannot easily be predicted.

The Department of Energy continues to rank the Richton site quite high despite its pristine pure lack of information concerning subsurface hydrology. The Mission Plan's hydrologic studies section on salt is inferior in detail and content to that of basalt and tuff. The discussion of radionuclide release paths omits mention of short-circuit pathways. Plausible pathways overlooked are: vertical movement up a shear zone in the dome, horizontal connection along a shear zone to surrounding sediments, salt-caprock interface over the dome, faulting within the caprock allowing connection with overlying aquifers, vertical movement up the dome - sediment interface on the flanks of the dome, vertical movement up improperly sealed shafts or boreholes. The assumption that releases occur at depth is not valid for all plausible release scenarios; for example, hydrostatic pressures at depth after closure due to water infiltration and heating which would force fluids upward through various pathways.

DOE acknowledges the possible existence of near-dome pathways "along the dome sheath or along faults", but simply states that "the data needed to define these potential pathways is not available." DOE fails to factor such potential problems into their analyses of a release scenario.

V.) Knowledge is limited on the chemical and geothermal effects of nuclear waste on the geological environment.

We believe that the influence of the host rock on the ability to retrieve the waste canisters should be discussed for each site. For example, because of the creep associated with a salt host rock, maintenance of drifts would be required to assure the retrievability of the canisters.

DOE only gives eight months on in-situ testing in salt, which is less than that for basalt or tuff. They fail to adequately address the impact of drilling large diameter shafts through water-bearing strata.

Questions arise concerning seal-performance testing. There are no assurances in ~~tes~~ the mission Plan that before shaft construction commences there will be adequate shaft sealing at a salt dome site overlain by unconsolidated, water-bearing sediments.

VI.) The DOE did not monitor seismicity in the Permian Basin Areas during site screening, and falsely stated that the area was seismically inactive.

The truth is that there are two areas of ongoing earthquake activity in southern Mississippi, one to the northeast and one to the south of the two candidate salt domes in Perry County. The lack of recorded earthquakes in the immediate vicinity of the domes may be due to the lack of instruments in the area rather than a lack of ongoing microseismicity. Any site under consideration for a repository should have a long established record of seismic monitoring.

VII.) There is intense disagreement on the health risks of low level exposure.

Due to the latency involved in the existence of health effects, the health risks imposed upon neighboring populaces has not been adequately assessed. Exposure to ionizing radiation produces biochemical alterations in cells leading to inherited birth defects and cancers. The effects of radiation are greatest in the young and in their rapidly growing tissues. Exposure of an unborn child to radiation has been shown to increase the incidence of death from cancer before age 10 by 50%. The effects of low level exposure to radiation are cumulative, and produce effects which may not show for many years. Health physicists state that there are no absolutely safe low levels of exposure. British dockyard workers exposed to levels of radiation well within safety standards have been found to have increased rates of chromosomal aberrations. Despite government assurances of safety, the residents of Nevada and Utah who were exposed to radioactive fallout from the 1957 above-ground nuclear weapons tests have experienced greatly increased incidence of leukemia.

The Environmental Protection Agency cannot develop an "individual dose standard"; and a "population standard" alone is totally unacceptable.

VIII.) A transportation system that can handle 9000 shipments of high level nuclear waste per year (or one shipment per hour) to a repository has yet to be feasibly developed.

There is yet to be demonstrated a method to measure and project permissible levels of exposure to populaces involved in the transportation of the waste. The potential for widespread levels of excessive exposure is exponentially enhanced with the prospect of transporting wastes. This hazard is acute in the event of transportation mishaps.

The Mission Plan states the DOE views the Monitored Retrievable Storage as an integral part of a waste disposal system. The dry storage method is to be approved for Virginia Power this September. Dry Storage appears to be preferable because it does away with transporting waste which enhance the risk factor.

The Mission Plan states that the MRS is more cost effective than the dry storage method. MRS, however also requires, a facility and transportation cost which should enter into the cost analysis.

IV.) The prevention of human intrusion through institutional management for thousands of years is unrealistic.

Evaluation of mineral resources is an attempt to ". . . reduce or remove the incentives for economically motivated post-closure human-interference capabilities of the site. (Federal Register, vol. 49, no. 236, Dec. 6, 1984, sec. 960, 4/2/8/1). The Mission Plan's analysis of the economic mineral resources of salt sites is based on present economic conditions. The Mission Plan should consider future economic trends of resources presently identified at the site. For example, 100 ft. of asphaltic oil encountered at Richton may be recovered in the future as oil supples dwindle and technology improves. Ground Water, sited as a mineral resource, as well as sand and gravel, should be included in an analysis of future trends of predicting the probability of intrusion.

In conclusion, before additional billions of tax dollars which the nation can ill afford are expended, MEMO urges the disqualification of the Richton site as a candidate for a permanent nuclear waste repository.

Respectfully submitted,

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MEMO Public Information Officer

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Travel / Development Council

STATEMENT OF THE SAN JUAN COUNTY, UTAH COMMISSION PRESENTED BY RICK M. BAILEY, ADMINISTRATIVE ASSISTANT TO THE COMMISSION REGARDING THE MISSION PLAN FOR THE CIVILIAN RADIOACTIVE WASTE MANAGEMENT PLAN AS REQUIRED BY THE POICY ACT 1982

I am presenting this statement on behalf of the San Juan County Commission expressing their views as local elected officals representing the citizens of San Juan County concerning the waste repository site near Davis Canyon. Throughout the entire selection process, the State has ignored local imput. We want this Committee to know that the position of former Governor Matheson of the State of Utah did not represent those of San Juan County in regard to the selection of a Spent Nuclear Fuel repository in Davis Canyon, if proven to be suitable and safe.

The Gibson Dome area, appears to be one of the most suitable sites available for this repository. The area is remote and located on Federal lands. While located near Canyonlands

National Park, there will be no impact on the park itself as the entrance, camp grounds, etc., are 15 miles away. However, health and safety supercedes other considerations and having the eventual incorporation of the repository within a nationally protected area would actually enhance safety and would be a strong motivation for sitting the repository near the Park. The remote area would provide an area where any impact would be limited.

San Juan County agrees with the Department of Energy's goals as stated in the Mission Plan for the Civilian Radioactive Waste Management Program in which is stated:

> Protection of public health, safety and environment
>
> Program must be creditable to the extent of its intergrity and techinical excellences.
>
> Program must neither subsidize nor penalize nuclear power as an energy source.

San Juan County is one of the largest counties in the nation with over 5 (five) million acres. Of those acres, over 4.3 million or 85.9% are federally owned. Some 300,000 acres are state owned (5.9%), leaving only 414,000 acres or 8.2% of the total acreage open to private ownership and development. We need every available resource to provide a living and tax base for our citizens.

Some say testing or construction of a repository will destroy our tourism industry if the repository is built next door to the Canyonlands National Park, driving away tourists and visitors. We do not believe this is so. Today, Canyonlands National Park has fewer visitors than does Three Mile Island! Arches National Park, immediately adjacent to the largest pile of radioactive material in the state of Utah has the largest number of visitors of any National Park in Southeastern Utah. The repository site is in an area some 15 miles from the park entrance, already endowed with a buffer zone. The repository is isolated and invisable to entrance traffic to the Park. The site area will only take in 1000 acres, only a small amount compared to the 300,000 plus acres that the Park takes in at the present time. This is an area where we take our families to enjoy the beauties of the area.

During the past years, San Juan County and Grand County, our neighbor to the North, have played a very substantial role in the nuclear power industry through decades of uranium mining and production. All three Commissioners from San Juan County have been involved in the uranium business at one time or another. We are familiar with the radioactive material. We are concerned with safety and health, but are not frightened by some of the outlandish claims of danger by a few. At the present time, the mining and production of the uranium industry is depressed and almost dead. Of the many hundreds of mines in the area only one or two are still in production. We feel that because of the lack of a waste repository, many people have become erroneously convinced that it cannot be safely handled.

Economic times in San Juan County are very hard. Hundreds of unemployed uranium workers have left the area seeking other work. Over the past years, Grand and San Juan Counties have seen over three thousand workers unemployed by the depressed industry. This would be equivalent to a loss of over 100,000 jobs in the Wasatch Front of Utah. We feel that now is the time to begin to take up where the mining has left off. The nation has a need in that there are no facilities for the permanent disposal of the high radioactive materials developed during the production of nuclear materials. If there is a time to try to reactivate the depressed uranium industry, it is of the upmost urgency to select and build a repository to provide for storage of nuclear waste where its toxcity is neutralized. The safety and health of the nuclear industry has been under stated. The industry has a safe track record. In what was called the worst accident of all times, not one person was killed or injured in the Three Mile Island accident.

The San Juan County Commission, the majority of the San Juan County residents support continued studies and testing and if proved safe and healthly, to construct the Nation's repository on this site. This support also has the backing of the cities of Monticello, Blanding, the Chamber of Commerce from both communities as well as both county parties. We together have not the desire to destroy or harm the land, but we have the need for the repository and want to have it built in a positive situation.

We have had a great deal of past experience in San Juan County with the influx of workers exceeding those contemplated for the repository. We feel that because of this past experience that the socio economic impact of this repository will be positive and not negative.

We would ask that the decisions relating to this matter be made only by geo-technical consideration and not by political pressures. And when those geo-technical considerations are made, that we proceed as quickly as possible taking in all safety and health considerations to provide this repository so that the nuclear industry can once again proceed.

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